THIS WEEK'S National Petroleum NEWS

Coming Meetings

National Petroleum Association, Traymore Hotel, Atlantic City, N. J., Sept. 19, 20, 21.

Ohio Petroleum Marketers Association, Inc., Deshler-Wallick Hotel, Columbus, O., Sept. 26, 27.

National Safety Council and American Society of Safety Engineers, Hotels Statler, Carter and Hollenden, Cleveland, O., Oct. 1 to 5.

Society of Automotive Engineers, Production meeting, Detroit, Oct. 10, 11.

American Institute of Mining and Metallurgical Engineers, Mayo Hotel, Tulsa, Oct. 12, 13.

National Association of Lubricating Grease Manufacturers, Stevens Hotel, Chicago, Oct. 16, 17.

Indiana Independent Petroleum Assoc., Inc., Hotel Severin, Indianapolis, Oct. 24, 25.

American Gas Association, Atlantic City, N. J., Oct. 29.

American Petroleum Institute annual meeting, Baker and Adolphus Hotels, Dallas, Tex., Nov. 12 to 15.

American Institute of Chemical Engineers, Pittsburgh, Pa., Nov. 15 to 17.

Automotive Service Industries Show, Public Auditorium, Cleveland, O., Nov. 19 to 23.

American Association of Petroleum Geologists, Pacific Section, Los Angeles, some time in November.

Society of Automotive Engineers, annual dinner, New York, Jan. 7.

Wisconsin Petroleum Association, Plankington Hotel, Milwaukee, Jan. 8, 9 and 10.

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F. W. Hall

F. W. Hall, newly elected chairman of the Petroleum Division, American Chemical Society, has been trained through two decades of education and practical experience to be peculiarly well fitted to direct the activities of one of the most important of the society's divisions.

Educated at Southwestern University and Massachusetts Institute of Technology, he wrestled with the problems of the vegetable oil industry until 17 years ago, when he joined the operating staff of The Texas Co. at Port Arthur, Texas. Sixteen years were spent in this refining department, several years of which he was head of manufacturing there.

Last November he was promoted to the headquarters manufacturing staff at New York, and he now directs the company's manufacturing operations.

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Confine Legislation to Production Control Ickes Advises the Cole Committee

By A. M. Petty
N. P. N. Staff Writer

By Teletype
WASHINGTON, Sept. 18

OIL Administrator Ickes believes permanent federal oil legislation should be confined to control of crude oil production.

Administration of such legislation he believes should be in the hands of the Secretary of the Interior.

This opinion he expressed today at the hearings before the Code committee from the House, which is investigating to determine whether federal oil control is advisable and to recommend possible legislation.

"I do not feel that our experience in the field of marketing has been sufficiently conclusive to warrant the recommendation of any provisions relative to the retail selling of petroleum products," Ickes told the committee.

"Neither have I any immediate suggestions to make regarding pipelines. This is a subject so involved that the possible course of legislative action is not at present clearly defined."

The oil administrator was emphatic in declaring that the federal government should be given power to fix crude production allocations within the states, even down to pools, leases, and individual wells, if necessary.

"If the legislation is confined to control of movement across state lines, it will not be worth the paper it's written on," he pointed out. "One state can ruin the whole program.

"Texas produces from 10 to 15 per cent over its federal allowable. Unless we have the power to require Texas to keep within its allocation the whole thing will break down. There's no use beating about the bush, our difficulty is Texas.

"This would also be our difficulty under legislation. I don't see how any federal agency could hope to dam up in Texas the amount of hot oil that is now being run and would be run, if provisions for production control were not included."

Asked about oil imports, Ickes said: "We wouldn't have to worry about imports if we could control the amount of 'hot' oil running out of Texas every day."

The state compact idea for balancing production with demand would fail, he said, though he admitted that it was more desirable than federal control.

The administrator said he did not think any provisions for price fixing should be included in the bill. He pointed out that the oil code contains the power to fix prices, but added, "I don't think price fixing is the proper method of approach to stabilization—except as an emergency measure."

Asked if he thought the proposed legislation should contain provisions for refinery control, Ickes replied, "I think that ultimately all we need is crude control, with additional powers to work off the tremendous surplus of crude and gasoline stocks now overhanging the industry."

On marketing, he said there is a great surplus of service stations, but he did not see what could be done about it. "In this time of depression we cannot deprive a man of his investment

This Week's Cover

THE healthiest sign in any industry is the construction of new equipment, to modernize older processes and meet ever-increasing demands for better products. This week's cover shows the rush of work in building Shell's new Montreal refinery, which refines petroleum products to supply that company's markets in Canada. Photo Courtesy Foster Wheeler Corp.

and workers of their employment," he stated.

Congressman Wolverton, New York, a member of the investigating committee, sought to draw Ickes out on the report of the now famous Committee of Eleven, appointed by the American Petroleum Institute in 1926 to study the oil situation. This committee voiced the conclusion: "There is no imminent danger of exhausting the petroleum resources of the United States." It also estimated the probable oil reserves.

Administrator Ickes said that, if there is as much oil in reserve as the Committee of Eleven estimated, then oil control should be left to the industry because, so he said, legislation to control production can be justified only on grounds of conservation. He expressed his belief that, except in an emergency, federal oil legislation could not be justified on the grounds of stabilizing an industry.

Following Ickes on the stand, Judge Beaty, chairman of the Planning and Coordination Committee, took issue with the administrator's statement on this point.

The discussion arose out of Judge Beaty's statement that, under the constitution, Congress cannot enact a law which deals solely with conservation. But in exercising its powers to regulate commerce, he added, Congress may attain a purpose which ordinarily would be within police powers of the states. He cited instances in which such exercise of power has been upheld by the U. S. Supreme Court.

"Protection of Commerce," said Beaty in referring to Ickes' statement, "should not be limited to a period of depression. Stabilization of an industry as large as the oil industry is fully as important as conservation."

Judge Beaty stated further that he regarded stabilization as the principal purpose of oil control; that conservation was secondary. He said he agreed with the Committee of Eleven's conclusion that there is no "imminent danger" of exhausting oil reserves, but added that that was no reason for not safeguarding them.

JUDGE BEATY said he favored permanent federal oil control such as was provided in the Thomas oil bill introduced at the last session of Congress. He also said that the state compact plan would not work.

Louis R. Glavis, director of the Interior Department's division of investigations, said the oil enforcement division has 230 employes, all but 32 of whom are in the field.

At the opening of the hearings Sept. 17, the committee of congressmen heard a number of government oil experts. These men are preparing or have completed detailed reports on various phases of the industry which they will submit to the committee.

E. B. Swanson, member of the PAB, testified as to interstate movements of crude oil and gasoline. He showed that gasoline from Texas goes into about 45 states.

Total known petroleum reserves amount to 13,250,000,000 barrels, the committee was told by Hale B. Soyster, chief of the oil and gas leasing division of the U. S. Geological Survey. He said that this would be exhausted within 15 years if the present rate of production could be continued.

W. S. Levings, of the Petroleum Administrative Board staff, said that 59 new pools have been discovered since Jan. 1, 1933, with combined reserves estimated at about 600,000,000 barrels.

Effect of "tremendous waste" in production on ultimate recovery of oil reserves was described by Ben L. Lindsley, and H. C. Miller, senior petroleum engineers with the U. S. Bureau of Mines. They cited the Texas Panhandle situation where "wasted" gas runs to about a billion cubic feet daily, or the equivalent of 36,000 tons of coal a day.

H. J. Kraemer, Bureau of Mines, explained many problems of the refining industry, including gasoline specifications, recovery percentages, natural gasoline and other subjects.

The oil import and export situation was discussed by A. H. Redfield, Bureau of Mines, while H. A. Brakey, also of the bureau, talked on "Past Demand for Petroleum Products and Problems of Future Demand."

John E. Shatford, member of the P. & C. Committee and a director of the National Independent Refiners Association, will ask the committee to include provisions for refinery control in any legislation it recommends.

Later, it is expected that the committee will hear; William H. Farish, Standard Oil of New Jersey; E. G. Seubert, president of Standard Oil of Indiana; Otto Donnell, head of Ohio Oil Co.; Harvey C. Fremming, president of the oil workers' union; representatives from the Pennsylvania Grade Crude Association, and others.

Fourth Edition of Oil Code Data Book

ISSUE No. 4 of the Oil Code Data Book corrected to Sept. 15 has been published by NATIONAL PETROLEUM NEWS and now is ready for distribution.

The new edition is larger than its predecessors. It contains 32 modifications and interpretations approved by Oil Administrator Ickes since the publication of Issue No. 3 of May 24.

Like preceding issues the book is carefully cross indexed for ready reference, contains a directory of important code committees and space for pasting in future code interpretations.

Prices follow:

1 to 9 books	25 cents each postpaid
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THE EDITORS' VIEWPOINT

Shortcomings of the Code Commented Upon

By Warren C. Platt, Editor

THE great and universal dissatisfaction within the oil industry over the marketing section of the oil code particularly is rapidly making itself known. The criticism had been in people's minds for a long time but one hesitated to speak it lest, by some stray chance, the thing might work.

We publish below more letters from prominent oil men in response to the suggestion of NATIONAL PETROLEUM NEWS that the American Petroleum Institute appoint a special committee at once to review the entire code and recommend to the industry what of it should be retained.

In addition we print, in this issue, the address of W. T. Holliday, president of the Standard Oil Co. of Ohio and a member of the Planning and Co-ordination Committee, delivered before the National Petroleum Association's annual meeting this week in Atlantic City.

Mr.Holliday is the third prominent oil man who has taken advantage of a speech in which to vigorously criticize the oil code. Mr. Holliday says that the marketing section of the code is academic now, that no one is paying any attention to it. He points out that the code ran contrary to human nature and until it is changed it will continue to be useless.

In fairness to itself the industry should have an immediate and fair determination of what it is going to do about the code, particularly the marketing section. Unquestionably thousands of violations are being practiced every day; markets are being ruined; tank car prices are dropping and the price of crude oil is seriously threatened. Companies that are adhering to the code, or trying to, find their business is being taken away by chiselers. They are tired of losing business to code violators.

We have been waiting for almost a year now for the government to prosecute violators but the governmental mind is not made up yet, though a mess of cases have been sent out to federal district attorneys, who are having their troubles figuring out what it is all about. Even though the government moves quickly on these cases, which it will not, they would only be a drop in the bucket, as compared to the number of complaints.

I have looked through files of some of these cases and they do not stack up so well, as to the nature of the evidence, when going before a jury. The defendant can too easily, and perhaps quite properly, explain away the charges, or blame them on an employe. Anyway, they do not look like real crimes, being only the things which a man has been doing all his life as a law abiding citizen.

FURTHERMORE, and what is vastly more important, these "high crimes" are generally to the end that the public gets its oil and gasoline cheaper. It is going to be hard to excite a jury, all gasoline buyers and probably themselves hard up, over that, even though the defendant has chiseled a bit on his wages and hours. At all events, they will argue he is keeping some people at work and paying them enough to live on and something over a 40-hour week is not going to kill any man.

In talking with officers of the various code committees one gets, in confidence of course, their frank criticism of helplessness to do anything worth while with the present code. They meet and pass on cases but it's all petty stuff as to any one defendant. More and more they are being met with open defiance by men who say they have stood for every one else's violations all they are going to and now they are going to be violators themselves.

In fact a member of one code committee told the writer he was going to resign from his committee and, in his letter of resignation, he would say that he could not fight the chiselers any longer but hereafter he was going to violate the code and in the following particulars, and then state them.

A large amount of time was spent in getting a lot of evidence against one of the largest and

ablest price cutters in the country, a man who stands high in his community. Now report is that the particular district attorney thinks the evidence is not sufficient to proceed on. But if he does proceed he and the government knows, or should know by now, that they will have the merriest fight in years on their hands. Abler men than government attorneys will defend and plenty of money will be spent.

Either this or some other fight will hang up the marketing section of the oil code on the back of the barn until it has withered and dried to utter uselessness.

One therefore comes to the conclusion that it may be better to make a quick but intelligent decision right now as to junking all the unenforceable and useless sections of the code and to keep only what the industry is most certain to comply with naturally, because it is common sense and good business to so comply.

This action can be taken by the industry in 30 days. It does not have to bother about getting approval from Washington because, after the industry has decided to throw a thing overboard, especially a thing that is already pretty dead, Washington is not going to have any fun trying to do something about it. Maybe Washington would like to get rid of this marketing code.

What is your opinion, Mr. Reader? We would like to have it.

* * *

By J. C. van Eck, chairman, Shell Union Oil Corp., New York

"I think it very appropriate that your periodical has undertaken a review of the progress made by the Oil Industry under the Oil Code during the past year. I do not think that such review necessarily results in a criticism of the present Administration. It should be constructive criticism, helpful to the Administration, even if it were necessary for the Administration to retrace some of its steps. I am sure you are in accord with that idea and that your comments are intended to be of help.

"So far as we are concerned, we have all of us supported the Code as being a helpful instrument of recovery. That the Code has not in every respect answered our expectations may be due to unforeseen causes. However, we should not overlook weaknesses in the Code and, if they exist, they should be faced and corrected. If they cannot be corrected and the defects are serious, then of course the question might quite legitimately be raised whether the Industry would not be better off without a Code.

"My personal opinion is that regulation of some kind was very necessary as an act of rehabilitation of the Industry, but it has also been my thought that no regulation is desirable unless it can be *enforced*. If the weaknesses of the Code lie in the fact that it cannot be enforced and nothing has been achieved or can be achieved to enforce it, then the remedy certainly is not more regulation but a reduction of regulation to a point where it can be enforced. As you say, it is unfair that business should be taken away from those who are obeying the Code and taken by those who are not doing so. While the Industry can temporarily be patient and await the result of enforcement, it cannot wait indefinitely."

* * *

By L. B. Simmons, president, Rock Island Refining Co., Duncan, Okla.

"Speaking from the independent refining situation, I feel that we have gotten the worst of the deal because the tank car prices for refined products have not been in line with the cost of crude. I do not know of any effort that has been put forth to clarify our position. That is, we have not seen results of an effort and results are the only thing that counts in the operation of our business."

* * *

By William F. Lowe, Secretary-Treasurer, Natural Gasoline Association of America, Tulsa

"Your comparison of the petroleum code to an overloaded Christmas tree brings to mind an equally apt expression which is current among producers in this part of the country. In discussing the efforts of code authorities to stabilize the oil industry as a whole and oil markets in particular, the futility of moves made to date are summed up in the simile 'Like curing the smallpox one pimple at a time.'

"In this particular instance, of course, the expression is directed toward the remarkably unsuccessful efforts of the administration to curtail the running of 'hot oil,' the recognized focal point of the industry's difficulties. However, conversations with men engaged in other business reveal that the phrase is applicable in other lines as well.

"As you say, it is quite obvious that lack of enforcement is the chief weakness of the code and has led to a general loss of faith in all code authority. Combined with the arbitrary and unreasonable position which the administration has taken on labor, particularly with regard to the small operator, profits have reached the vanishing point and disregard of code provisions is nearing the state of open rebellion. Respect for the whole Code set-up seems to be fast disappearing.

"Whether another committee could help the situation is a question, but your suggestion that now is the time to scan the petroleum code and sort its values is one which is quite likely to meet with universal approval."

* * *

By C. M. Henderson, vice president, Vickers Petroleum Co., Wichita, Kans.

"It is my thought that, if crude oil were brought under control and real enforcement had in this end of the business, then all of the other Code work would be unnecessary insofar as refining and marketing are concerned.

"If crude oil production cannot be brought under control, then all of the work in connection with applying the Code to refining and marketing will be of no avail."

Authorities Face Huge Task Checking OES Forms to Trace "Hot" Oil

TULSA, Sept. 15

THE principal thing that has come out of East Texas this past fortnight is a tropically luxuriant crop of rumors. Reduced to pulp they proved to contain very little sorghum or other edible substance.

The oil trade failed to respond noticeably to the announcement from Washington that the revised form had been put into effect and that the long-awaited Treasury Department regulations accompanying the one-tenth cent per barrel producers and refiners tax had been issued.

This OES business, by the way, means "Oil Enforcement Section" of the Department of the Interior and No. 6 form is the affidavit which the shipper of petroleum or its products must sign when he tenders his shipment to the railroad. It now contains the declaration that the shipment was not made from crude petroleum produced or withdrawn from storage in violation of the orders governing such production or withdrawal.

The fact that several days went by without court action to contest the new order was a little disquieting. The East Texas group that has litigated everything, federal and state, usually moves promptly on orders they do not like. Reports from the field were that refiners were signing these affidavits quite freely and one of them was reported to have said that he signed a hundred of the forms in blank to save time.

Some shippers believe that the federal government will be unable to work its way through the mountainous pile of records it has on hand and correlate them in such way as to prove anything as regards any particular shipper.

The files are bulging now and growing hourly. It is difficult for anyone outside the field to realize just how many reports are now required. Take form OES-1, for instance. This is required, in triplicate, when oil is delivered at point of origin to any pipeline or other form of transportation from the lease. There are some 40,000 lease tanks in the East Texas field from which crude oil is turned into pipelines. They are turned on, it is estimated, an average of three times each month. That means 120,000 of these OES-1 reports each month, 4000 per day.

The job of matching these up with the reports that are designed to show the final disposition of any particular tank of oil is a task that would call for employment of more clerks than any one office building in East Texas would hold. About all that can be done is to concentrate the effort on operators and refiners under suspicion and make no effort to correlate the reports on the rest.

Then there is the added complication of 37 producers and refiners who are not making reports to the federal agents. They are protected by the injunction granted by Judge Bryant in the Amazon and Panama cases and will be so protected until the U. S. Supreme Court decides whether the oil administrator can require the reports.

It is too early to expect any results in enforcement from the federal tax on production and refining. The new regulations came out a few days ago. The tax went into effect June 9, but no reports were required except the simple declaration of the taxpayer that he was paying on a certain number of barrels. No statement was made on this form as to where the oil was produced.

That form, incidentally, under the new regulations is still the only thing that is filed with the collector. The Treasury Department lists the records and reports which the producer and refiner are required to prepare, but they merely have to keep these in their offices where they are available to agents of the Internal Revenue Department and to proration authorities. It had been supposed that the regulations would call for the rendering of detailed reports to the collectors of revenue and that the proration people could do their inspecting of records in the collectors' offices.

According to estimates made by the railroad commission officers in East Texas "hot" oil over the week ended Sept. 10 averaged between 35,000 and 41,000 barrels. This is less than half the amount which oil company scouts give as their estimates, but is about double what the state authorities were reporting during the period of operation of the order requiring approved tenders on all movements of oil and products.

Unfavorable decision in a state court brought to an end, temporarily at least, what was regarded as the most intelligent approach to the enforcement problem yet devised. Lack of statutory authority of the commission to interfere with refinery shipments was the basis of the decision. The commission probably will ask the legislature, now in special session, to give it the necessary power to resume the tender system.

Michigan Refiner to Build New 1000 Barrel Plant

GRAND RAPIDS, Mich., Sept. 12.—The completion of new units of a refinery and the removal of the old plant to the new location about three miles east of Grand Rapids on the Grand Trunk Western Railway is expected to be accomplished within 90 days according to an announcement of the Kent Refining Co. The new plant will have a daily capacity of 1000 barrels when completed and will operate on Mt. Pleasant crude.

Construction will begin at once and one unit will be put in operation at the new location before the actual removal of the present plant will be made.

Federal Court Upholds Injunctions Against Papoose and Republic

LOS ANGELES, Sept. 14

THE tank steamer Papoose still rides at anchor at Tacoma and the steamer Republic at Vancouver while demurrage charges pile up against their cargoes of East Texas gasoline which are alleged to be "hot."

Federal court at Boise, Idaho, upheld its temporary injunction Sept. 13 and ordered defendants to show cause why they should not be cited for alleged violation of the code.

Approximately 1,000,000 gallons of gasoline were unloaded from the Papoose into shore tanks after federal court in Tacoma dissolved its temporary injunction and before government lawyers could rush to Boise and get an order from federal court there. The unloaded gasoline, however, is regarded as being covered by the Boise injunction.

Reports now are that negotiations are in progress to export the gasoline refused admittance on the west coast.

Regardless of the character of the ultimate court decision, the threat of East Texas gasoline to west coast market stability is considered definitely deferred because the heavy demurrage and other costs piling up against the tankers are considered likely to discourage further similar shipments.

While the battle of the tankers was in progress independent refiners on the Pacific Coast had two problems of their own to settle. One was the standstill agreement, or moratorium, prohibiting the piracy of pumps from competitors. The other was the proposed price differential in favor of competitive brands of gasoline, or, as an alternative, the retirement of major companies from the third-grade field.

Official notice was issued by the oil administration that, so far as it was concerned, the moratorium would end on Sept. 22. That, however, did not imply that California refiners could not decide among themselves to continue the agreement in operation indefinitely. Refiners were understood to be devided on the subject, with major companies, in general, favoring a lifting of the moratorium and most of the smaller independents stressing the protection it gave to them.

LOSS of gallonage by some service stations handling certain independent brands was reported to be so severe that these stations would welcome a chance to change over to more popular products. In several instances the unpopular brand was being retailed at these stations for one cent below the established price, or the pump was being used to dispense a gasoline substitute at a still lower price.

Considerable agitation developed among service station owners, with tacit approval of some independent refiners, in favor of allowing independent competitive brands to be sold for one cent or one-half cent lower than major - company third-grade products.

A majority of marketing officials have always contended that independent refiners could not continue to maintain gallonage if they attempted to sell on a price parity with major companies. Gasoline tax sales reports and the large purchases of surplus gasoline by the California Petroleum Agency tend to prove the correctness of that contention.

Independent refiners are now actively undertaking ambitious advertising campaigns designed to overcome the lack of public support for their products.

Four major companies are said to be ready to agree to a differential in favor of competitive brands, but three companies are strongly opposed to that course as a matter of declared policy. Marketing officials seriously doubt the possibility of securing unanimous consent to the change. Neither is any probability seen that major companies would agree to retire from the third-grade field and allow the independents to monopolize it.

Little has been said about the proposal to allow a differential on standard brands. The suggestion is not taken very seriously as few independents make more than one grade of gasoline, and that a strictly competitive product.

Barred by the agreement from advertising third-grade brands, major companies in full-page newspaper displays are now featuring the free service given to motorists at their stations. Until recently chief attention was paid to the quality of their standard brands.

Tax Convention Moves to Crush "Bootleg" Gas

ATLANTIC CITY, Sept. 14.—In an effort to stop tax evasion, gasoline directors from 35 states and the province of Quebec, meeting here in the ninth annual gasoline tax conference, agreed to the reporting of all interstate shipments of gasoline as a means of stamping out the "bootlegging" of motor fuel.

A model uniform law is being prepared to be presented to all the legislatures. The direct result of this law will be the watching and recording of gasoline in the various stages of progress from the refining plant to the automobile gas tank. It is the belief of the delegates that under such surveillance irregular motor fuel will be impossible.

Officers were elected at the close of the session for the coming year. Joseph L. McLaughlin, Trenton, N. J., was chosen president; Fred G. Six, Indianapolis, Ind., vice-president; Alex Hotchkiss, Topeka, Kansas, treasurer; and C. F. Joyner, Richmond, Va., secretary.

Price Adjustments by S. O. Indiana Upset Stabilization Program

By E. L. Barringer
N. P. N. Staff Writer

CHICAGO, Sept. 14

CRITICISM of the Standard of Indiana's new retail price policy announced Sept. 11, was made this week to oil code administrative authorities by mid-western jobbers.

A group of 310 Iowa jobbers sent a telegram to the Iowa stabilization committee. A Wisconsin jobber took his complaint direct to Administrator Ickes in a letter.

The major points of protest against the new policy, which in effect reduces jobber margins to about 5.5 cents, of which the dealer in most cases has 4 cents, were:

Failure of the Standard to give sufficient notice of any change. In the stabilization programs of several states, provision is made for a waiting period of 48 to 72 hours before actually revising prices, after an oil company has made known its purpose to change prices. This is to eliminate hasty price reductions by giving the local stabilization committee an opportunity to investigate market disturbances and if possible to prevent a break down in a retail structure.

Reduction of the spread between tank car and tank wagon prices without any compensating change in the dealer margin.

Following is the telegram sent to Henry C. Wurster, chairman of the Iowa state stabilization committee Sept. 13, on behalf of 310 Iowa jobbers, by Hoyt R. Ogram, of Kanotex Refining Co.

"We vigorously protest recent state wide gasoline price cut in Iowa by large petroleum marketer. This price cut is in violation of stabilization agreement and unwarranted. Stabilization committees were not notified to allow investigation of facts nor was agreed time allowed prior to reduction to correct bad situations if any.

"Present reduction in connection with dealer discounts does not allow jobber sufficient margin to live and we respectfully urge your committee to use every effort to have price cut order rescinded or acknowledgement from said company they will not comply with the stabilization agreement as outlined."

The letter to Administrator Ickes protesting the price cut, particularly as it permits the dealer 4-cent margin to remain, was sent Sept. 13 by A. J. Fiore, Jr., head of the Fiore Coal & Oil Co., Madison, Wis., and chairman of district 13 of the Wisconsin state code committee. Following is the principal portion of his letter:

"On Sept. 11, the Standard Oil Co. of Indiana cut service station prices 1.4 cents per gallon which leaves just a little less than 1.5 cents gross margin per gallon after you give the dealer 4 cents. Why does the Standard Oil Co. have to cut prices here in Madison, where everything has been running smoothly and there is no fear of competition in price cutting, instead of cutting prices in some territory where there is such competiton?

"Hon. Ickes, how can we pay 4 cents to resellers and let our men work 48 hours and give them fair wages when we get such a small margin? If the small fellow cuts his price, a report is immediately given to Washington, but when he trys to say something in defense of his actions he is condemned and has no chance to defend himself. . . . . "

"I do not see any justification in cutting the prices at this time. We do not work on any excessive margin and I do not understand why this cut was effected at this time. There was no reduction in prices at the refinery, nor any reduction in crude oil, still they cut the jobbers margin and still guarantee their dealers 4 cents.

"Why do we have a concilliation board? It doesn't seem to be helping any, because Standard Oil still does as it pleases. . . . "

"Unless the big concerns leave it to the local district to decide for themselves, we shall never have fair competition.

"There are small oil company cut-throats. These cut-throats are bad and disturbing, but they are few and the law ought to be able to take care of them. But the Standard Oil Co. isn't satisfied to take that class of business, they have to go ahead and affect everyone else's business in 12 states.

"Unless the oil code is strengthened and enforced we cannot live up to it. We have in this state federal men who try to organize farmer's co-ops., and also several state people and university professors who aim to and have started unfair competition.

"I have not yet had any quarrels with the people who confine themselves in farmer communities, but when they come to a city of 60,000 population, and a trade area of 100,000 people, and disturb the market it's a different story.

"Since this oil code has been in effect, we have been living in hopes from day to day for 18 months, but they have not been fulfilled."

The Indiana Standard's action in making a quick move to slash margins, on one day's notice, places the state stabilization committees in the affected states in an awkward position, after weeks of effort to restore prices to profitable levels.

Russell Brown To Attend Chicago Oil Meetings

CHICAGO, Sept. 17.—Chicago will be the center of interest on code and marketing activities in the middle west this week with a two-day regional code committee meeting, the fall outing of the Chicago Oil Men's Club and a session of the State Executives Council scheduled for Sept. 19 and 20.

Russell B. Brown, compliance director of the code, will be in Chicago on these two days.

Stabilization work and the

Standard Oil Co. of Indiana's margin reducing price cut of Sept. 11 will be the chief subjects for discussion. Many code committee and association executives have been working on stabilization programs and this will be the first gathering since the new retail price schedule became effective.

Ickes Asked to Take Hand In Indiana Price Wars

INDIANAPOLIS, Sept. 18.—Oil Administrator Ickes is asked to take a hand at once in the retail gasoline price situation in Indiana by sending some one from the code administration into that state "with authority to correct the situation."

In a telegram to Ickes, Max L. Wickersham, executive secretary, as representing the Indiana Independent Petroleum Association, says the state stabilization committee has made no attempt to call a meeting. His telegram reads:

"The officers and directors of the Indiana Independent Petroleum Association, Inc., appeal to you for immediate action for stabilization of service station retail prices in Indiana.

"To date the chairman of the stabilization committee has made no attempt nor called a meeting to correct the disastrous retail market. Vincennes, Evansville, Bedford, Bloomington, Terre Haute, Brazil, Columbus and other localities are selling below 14 cents, including 5 cents state and federal tax.

"If present market conditions exist much longer many independent oil men will be forced to close their doors.

"Standard Oil Co. of Indiana issued an ultimatum they would not be undersold, regardless of branded or unbranded merchandise. A majority of the oil industry in state is favorable to a reasonable differential in order to maintain a normal and profitable market to meet the mandate of hours and wages in the federal code. Please send someone to Indiana with authority to correct this situation at once."

Ickes Reports Average Producing Costs

WASHINGTON, Sept. 18.—The average cost of producing crude petroleum in the U. S. from 1931 to 1933, inclusive, was 80.6 cents a barrel, according to results of a survey just announced by Administrator Ickes.

This report indicates that the average cost was increased approximately 8 cents by the oil code. For the first nine months of 1933, the average cost was 69.9 cents while, for the last three month (during which the code was in effect) it was 77.5 cents. This represents an average of 71.7 cents for 1933 as compared with 89.4 cents in 1931 and 80.8 cents in 1932.

The average cost for the 3-year period represents a decline of 24 cents a barrel, as compared with the $1.05 average cost during 1927-1930, as determined by the U. S. Tariff Commission.

Crude oil prices, according to the report, seemed to have declined in the same proportion from an average of $1.22 in the 1927-30 period to 72 cents in 1931-33.

Flush production in the East Texas, Kettleman Hills, and Oklahoma City fields kept the national average cost down. Excluding these three fields, the report said the national average cost for 1931-33 would be 87.5 cents.

Average cost in East Texas field during these years, was as follows: 1931, 54.5 cents; 1932, 60.9 cents; first nine months of 1933, 49.6 cents; and the last three months of 1933, 56.6 cents. The 1931-33 average was 54.8 cents.

In the Oklahoma City field, the average costs were: 1931, 93.4 cents; 1932, $1.025; first nine months of 1933, 69.9 cents; last three months of 1933, 72 cents; 1931-33 average, 84.6 cents.

The lowest cost for any field anywhere in the U. S. according to the report, was shown for Kettleman Hills. It was explained that, during 1931 and the last three months of 1933, the cost per barrel was less than nothing because revenues from the sale of gas exceeded the oil costs. The three-year average cost, for the same reason, was 8.9 cents a barrel, with the cost in 1932 at 17.8 cents and the first nine months of 1933, 15.3 cents.

The Petroleum Administrative Board said that in its cost survey 3000 questionnaires were sent out to producers. Of these, returns received from 1009 were considered suitable for tabulation. The questionnaire called for data on depletion, depreciation, amortization of intangible development cost, operating cost and general overhead and administrative costs. Gas sales and miscellaneous revenues were deducted.

Advertising Specialties Ruling is Modified

WASHINGTON, Sept. 15.—By order, Administrator Ickes has modified the May 21 interpretation of Rule 17, Art. V, (the anti-premium rule) of the oil code, so that the cost limitation on advertising specialties is removed.

The order was recommended to the Administrator by the Petroleum Administrative Board after an extensive investigation and hearings, it was said.

Neither the Planning and Coordination Committee nor its marketing sub-committee recommended the change, it is understood. A hearing was granted the advertising specialties industry by the marketing subcommittee has held no meetings since then, it is said.

Following the hearings July 14 by the PAB, political pressure is reported to have been brought on the oil administration to make the change.

The so-called premium lobby also appeared at the hearings and demanded that Rule 17 be amended to permit the giving of premiums. So far, the PAB has successfully resisted pressure brought by this lobby.

Under the new modification, advertising specialties may be given away provided they: (1) Bear the name of the giver; (2) Are not given on condition that petroleum products be purchased; and (3) Are not distributed at retail stations.

Arbitration Decision in Cleveland Station Strike Expected Soon

By Seward A. Covert
N. P. N. Staff Writer

CLEVELAND, Sept. 17 AFTER months of deadlocked discussion, the local strike dispute between the 17 oil marketing companies here and the gasoline station operators' union is expected to be officially ended by the beginning of next week.

The first service station operators' strike arbitration ever experienced by the petroleum industry terminated its public hearings last Friday after 17 days of testimony. Four points were agreed upon. Seven await the judication of the board of arbitration which goes into secret session the latter part of this week. Headed by Dr. John A. Lapp, impartial chairman from Chicago, the board is composed of seven members, three for the companies and three for the union.

It is indicated by authorities that the job of the arbitration board will not be easy. The questions of higher wages, a 40-hour week, a signed agreement, seniority rights, purchase and care of uniforms, sick leave allowances and company meetings will prove to be knotty problems not easily unraveled to the satisfaction of both parties.

Concurrence upon four questions was readily achieved during the recent hearings. These were:

(1) shrinkage, for which an "allowance will be made at nonmetered stations after January 1, 1935, up to 1 per cent per month adjusted on an average consecutive three-months basis and where a man leaves the employ of a company during any such three month period the settlement shall be made with him on the average for the less-than-three-months since the date of the last settlement." (The companies stated that this was not to be considered a precedent nor the admission that proper shrinkages did occur);

(2) Off-drive solicitation is to be done upon company time;

(3) A part-time worker as defined in the Code was satisfactory to both sides; and

(4) Compensation for commission station employes will equal "a minimum wage as provided other salaried employes . . ." and the "commission shall be computed on a calendar year basis or upon a monthly basis if the worker is employed for less."

THE union has asked a marked increase in wages ranging from $110 to $150 per month. This is impossible to grant under current earnings, state the companies, who made a counter offer, which was refused, ranging from $80 to $110 per month. This company offer is an increase over the old scale and considerably above the base wages called for by the Code. Averaged over the 1400 odd employes it would give a figure of $101.10 as compared with the former monthly wage average which the union computed to be between $86 and $90.

On June 22 the arbitration board met for one session and reached agreement on ten minor points which were: companies to pay fidelity bond premiums; companies to provide petty cash; stations to be closed Christmas Day from 7 A.M. to 7 P.M.; no fines for errors in accounting; time off without pay for employes active full time in union matters; companies to pay for all necessary medical examinations; companies to provide safes in all stations; leaves of absence without pay if asked by employes (two weeks after a year, one week for less than year); classification of employes; and a differential wage to be settled in the final arbitration decision. The board adjourned until August 23 when it was prepared to hear the major questions.

The industry's first arbitration board sat for 17 days. It listened to nine company witnesses and seven union. The union presented 50 exhibits portraying earnings, health and decency budgets, hours, and other pertinent figures to give the board an adequate picture of what conditions surround the men. The company exhibits numbered close to 20. The arbitration board is composed of Dr. John A. Lapp, impartial chairman; J. C. Willing, Cities Service Co.; Dr. Leslie Vickers, statistician; Walter Hoculi, Indian Refining Co.; Phil Hannah, union secretary; A. C. Helm, union official and W. M. Rea, secretary Street Car Men's union.

Two sessions a day were held. Open to the pubic, they drew generous crowds ranging from 50 to 150 or more spectators.

Compiling figures from eight companies one of the company exhibits showed a decrease in gallonage from 3,733,426 gallons in March 1929 to 2,991,975 in March 1934. At the same time the outlets had been stepped up from 305 in 1929 to 353 in 1934.

Most lucid company exhibit was that displaying net loss figures in cents per gallon sold. In 1933, the loss per gallon was 2.53 cents. Though gross profit was 7.1 cents a gallon, total expenses were 9.63 cents per gallon. In 1932, the loss was 1.81 cents per gallon with total expenses amounting to 9.11 cents per gallon. In 1931, the loss was 0.94 cent per gallon.

WAGES paid per gallon under the present scale NRA equal 3.72 cents on a 48-hour week basis. Union demands increase the figure to 5.98 cents with no hour change. For a 40-hour week the outgo jumps to 7.06 cents average for payroll costs per gallon. In percentage figures the wage increase at salaried stations under a 40-hour week would range from 75.7 per cent to 85.1 per cent, if uniform care and sick leave pay are included. This is spread over 583 stations.

In concluding the public hearing, Dr. Lapp stated that it was his hope that the main points placed before the board could be decided satisfactorily for all, but he doubted it.

Strikers' Lawlessness Bars Reinstatement

WASHINGTON, Sept. 17.—That the excitement of a strike does not justify acts of violence by employes is the underlying policy in a decision by D. A. Moscovitz, counsel for the Petroleum Administrative Board. It concerns reinstatement of 14 employes discharged after or during the strike at the Champlin refinery, Enid, Okla.

Mr. Moscovitz served as arbitrator at the request of both parties.

In five of the eight cases in which reinstatement was denied by Mr. Moscovitz, the reason he assigned was that the employes left their posts without making sure that the equipment was left in a safe condition.

"It is well settled that men called out on strike must leave their equipment in such condition that it will not endanger either life or property," he said.

Reinstatement was denied another man on the grounds he had violently laid hands upon H. H. Champlin, president of the company, and had removed him from the premises, according to Moscovitz. Another employe was denied reinstatement because he allegedly had a hand in this and other acts "intended to harass and humiliate his employer."

"Refusal to permit an employer and owner of property to enter thereon and the act of ejecting him therefrom is unlawful," Moscovitz pointed out.

Mr. Moscovitz said he denied the other man reinstatement because he had struck his foreman who had called him a "liar." Mr. Moscovitz held that an employe is not permitted to take the law into his own hands and that he should have taken his grievance to the manager.

Reinstatement was granted three employes on grounds that their fight with non-union employes was a "purely personal brawl entirely unrelated to the strike." Another was reinstated on similar grounds.

Mr. Moscovitz said he could find no evidence that a certain employe had used an unprintable epithet in referring to Mr. Champlin and so reinstated him.

Another employe who "continually talked union while on the job when his time and the time of those he disturbed should have been devoted to work" was reinstated even though Moscovitz regarded the practice as improper. He felt that it was through a misunderstanding of the proper limits of means of organization.

Ford Recommends Extreme Pressure Lubricants on Cars and Trucks

CLEVELAND, Sept. 17 FORD MOTOR CO. now recommends the use of extreme pressure lubricants in transmission and differential gear cases of all Ford trucks and passenger cars manufactured since August 10.

In the past virtually the only automobile manufacturers who have specified extreme pressure lubricants have been those whose cars were equipped with hypoid or worm gears.

Following is the Ford announcement to its dealers:

Approximately Aug. 10, extreme pressure gear oils were adopted for all new cars and trucks in both rear axle and transmission. Dealers should likewise change their recommendations and should supply extreme pressure lubricants for all trucks, using up whatever supply of straight gear oil they have in older model cars not subjected to the loads and tooth pressures encountered with the high torque V-8 Ford engine.

It is important that extreme pressure lubricants be used for all trucks and for all V-8 passenger car rear axles.

It is likewise important that these extreme pressure lubricants be periodically removed and the housing flushed with kerosine and filled to the correct level with new extreme pressure lubricant. While these extreme pressure lubricants offer many advantages, the character of these lubricants is such that a change in physical characteristics may occur. These changes are indicated by an increasing viscosity or any tendency to stringiness or fibrous appearance. Such changes are a danger signal that the lubricant is losing its effectiveness and should be changed.

During each 1000-mile lubrication the rear axle and transmission lubricant must be inspected for stringiness. It is absolutely necessary to remove and discard this type gear oil every 5000 miles.

General Requirements

General requirements for the extreme pressure lubricants being used by the Ford Motor Co. are given below and we suggest that dealers and garages use a comparable product. This material should be free from water, uncombined sulfur, lead, chlorine or any other foreign matter or deleterious substances.

This material shall have the following constants:

	Viscosity Saybolt Universal		Flash	Cold Set °F.
Summer —	1200-1900 Sec.	200-230 Sec.	300°F. Min.	20° Max.
Winter —	800 Max. (at 130°F.)	145 Min. (at 210°F.)	300°F. Min.	-5° Max.

A mechanically polished strip of copper shall not be discolored or corroded after being submerged in this material for 24 hours at 70°C. (158°F.).

This material shall withstand at least 225 pounds per sq. inch on pressure cylinder, when tested in a Floyd Oil Testing Machine. The pressure being increased 25 pounds every 10 seconds after first allowing machine to run for 25 seconds without any load.

In addition a practical operation test is highly desirable, noting especially tendency to break down and gear scuff protection.

Builds Gasoline Plant

TULSA—Shell Petroleum Co. has started construction of a combination gas lift-natural gasoline plant in the Lucien field near Perry, Okla. The plant will handle about 4,000,000 cubic feet of gas daily, and was expected to produce around 4500 gallons of natural gasoline daily.

New Michigan Refinery Elects Officers

DETROIT, Sept. 15.—Walter L. McClanahan has been elected president of McClanahan Refineries, Inc., at a meeting in the newly organized company's Detroit offices. This company will erect a refinery in the Central Michigan field as an outlet for production of the McClanahan Oil Co. It is expected that the new plant will be completed in approximately 90 days and will take from 100 to 150 barrels of crude daily.

Other officers and directors of McClanahan Refineries, Inc., were elected as follows: Vice president, Esbern Hanson, of Grayling, Mich., secretary; Grant L. Cook, of Detroit; treasurer, Arnold H. Goss, of Detroit. The additional director is William H. Hoehn, of Detroit.

Plans have been perfected for construction of the plant, it was said by Mr. McClanahan, and work will be started within a few days.

Grants 3,443,368-Bbl. Increase In Gasoline Allocations

WASHINGTON, Sept. 17

THE Refinery Board of Review has just completed its busiest session. Its docket has been cleared of 51 appeals from refiners who were dissatisfied with their September gasoline production allocations.

Forty-nine appeals were acted upon, including one from the Texas Gulf Coast refining committee. The aggregate allocations involved amounted to 15,533,080 barrels, or nearly half the total September allowable. The aggregate increases asked on appeal amounted to 3,443,368 barrels.

The board denied 23 appeals; two were withdrawn. Twenty-six appeals asking for increases totaling 2,340,497 barrels were granted, with adjustments in allowables amounting to an increase of 965,398 barrels.

As this total increase would have exceeded the national allowable set by Administrator Ickes, the board was forced to readjust district allocations. Approximately 200,000 barrels each were withdrawn from the East Coast and California districts, and the allocating agencies instructed to reallocate the quotas of individual refineries within these districts. These adjustments, with the 580,000 barrels previously withheld from allocations, enabled the board to effect the appeals granted.

When the district allocators met here August 10 to make the September district allocations, a poll indicated that requests would aggregate 38,359,498 barrels against the 31,800,000 barrels to be allocated initially.

The allocations finally determined upon were accepted by all except the representative of District 5-B (Texas Gulf Coast). Shortly thereafter this district refining committee filed appeal for an increase of 1,250,000 barrels on the grounds that the Texas Gulf Coast was "discriminated" against in favor of other districts.

The review board granted the district an increase of 270,000 barrels, and, acting on two individual appeals, granted The Texas Co. and the Gulf Refining Co. an increase of 165,000 barrels each. The total increase, therefore, amounted to 600,000 barrels.

District Allocator Struth was instructed to apportion 270,000 barrels increase equitably among Texas Gulf Coast refiners, with the exception of the Texas and Gulf Companies.

The official report by the Refinery Board of Review on the 51 appeals for September is as follows:

Appellant	Refinery District Number	September Allocation Barrels	Increase Requested Barrels	Result
White Eagle Oil Corp.	4	196,262	28,738	Denied
Waverly Oil Works	2	6,050	750	750+
Skelly Oil Co.	4	243,981	72,074	30,000+
National Rfg. Co.	4	91,045	23,955	23,955+
Phillips Pet. Co.	4	214,785	128,215	Denied
Standard Oil Co. (Ohio)	2	230,000	67,000	Denied
Wirt Franklin Pet. Corp.	4	16,559	5,441	5,441+
Kendall Rfg. Co.	2	43,125	21,326	14,375+
Barnsdall Oil Co.	4	172,608	47,392	Denied
Quaker State Oil Rfg. Corp.	2	93,550	11,450	6,450+
Atlantic Rfg. Co.	1	794,000	218,000	Denied
Atlantic Rfg. Co.	2	108,000	57,000	Denied
National Rfg. Co.	3	38,545	11,455	11,455+
Bradford Penn Rfg. Corp.	2	5,450	623	623+
Bradford Oil Rfg. Co.	2	11,800	1,200	600+
The Elk Rfg. Co.	2	13,650	4,150	2,850+
Phillips Pet. Co.	5-A	497,218	87,782	Denied
White Star Rfg. Co.	3	153,494	26,506	Denied
Gulf Rfg. Co.	3	371,798	78,202	60,000+
Continental Oil Co.	4	285,823	79,897	Denied
LaSalle Pet. Co.	5-A	5,720	1,030	Denied
Sinclair Rfg. Co.	3	474,852	95,148	70,000+
Shell Pet. Corp.	4	133,997	56,003	10,000+
Shell Pet. Corp.	3	658,915	58,230	Denied
Standard Oil Co. (Ohio)	3	280,302	34,698	Denied
Solarono Rfg. Co.	5-A	14,998	5,002	2,500+
Pettus Rfg. Co.	5-A	3,520	4,480	779+
Gratex Rfg. & Fuel Oil Co.	5-A	1,780	500	500+
Gulf Rfg. Co.	5-B	763,962	236,038	165,000+
Marathon Oil Co.	4	30,164	3,836	3,836+
Aero-Gas Rfg. Co.	5-A	440	400	400+
Canyon Oil & Gas Co. Inc.	5-A	616	.....	Denied
Continental Oil Co.	1	109,000	37,000	Denied
Continental Oil Co.	5-A	73,923	18,633	Denied
C. P. Chapa Rfg. Co.	5-A	440	360	Denied
Republic Oil Rfg. Co.	5-B	.....	.....	Withdrawn
Pasotex Pet. Co.	5-A	63,362	19,665	Denied
Texas Gulf Coast Rfg. Co.	5-B	6,000,000	1,250,000	270,000+
Crown Central Pet. Corp.	5-B	100,000	43,000	Denied
American Pet. Co.	5-B	60,000	16,500	Denied
Old Dutch Rfg. Co.	3	13,245	1,755	1,755+
Lakeview Oil & Rfg. Co.	8	5,952	595	Denied
The Texas Co.	3	511,227	98,654	78,000+
The Texas Co.	4	181,804	54,739	30,000+
The Texas Co.	5-A	233,120	55,785	Denied
The Texas Co.	5-B	1,378,836	292,187	165,000+
The Texas Co.	7	77,111	52,558	Withdrawn
Continental Oil Co.	7	134,587	11,356	Denied
Lubrite Rfg. Corp.	3	74,693	8,000	8,000+
Union Oil Co. of Calif.	8	416,511	65,489	Denied
Yale Oil Corp.	7	16,371	3,129	3,129+

October Gasoline Allocations For Refineries Announced

WASHINGTON, Sept. 14 GASOLINE production allocations for the various refining districts in October were announced today by the Planning and Co-ordination Committee.

In line with the increase of 1,310,000 barrels made in the national allowable by Administrator Ickes, allocations of all districts except California and the Louisiana Gulf Coast were increased. Total allowable for the U. S. is 33,690,000 barrels.

In October, 1933, gasoline production in this country was 36,200,000 barrels, the Bureau of Mines reported. Domestic demand for motor fuel was 32,-973,000 barrels and export demand 2,641,000 barrels.

Allocations by districts for October, 1934, with comparative figures for September, follow:

(Figures in thousands of barrels)

District	Oct.	Sept.	Change
1. East Coast ..	5,603	5,400	+230
2. Appalachian	1,416	1,375	+ 41
3. Ind.-Ill.-Ky.,..	5,993	5,250	+743
4. Okla. - Tex. Kans., ...	4,620	4,100	+520
5. Texas:			
(a) Inland Texas	2,524	2,400	+124
(b) Tex. Gulf Coast	6,765	6,000	+765
6. Louisiana-Arkansas:			
(a) La.-Gulf Coast including Ala.	1,095	1,100	— 5
(b) No. La.-Ark., including Miss.	799	760	+ 39
7. Rocky Mountains, ...	765	715	+ 50
8. California	4,110	4,700	—590
TOTAL U. S.	33,690	31,800*	+1,890

*580,000 barrels were withheld when allocations were made in August. This was used by Refinery Board of Review this week in readjusting district and refinery quotas. These readjustments included addition of 600,000 barrels to quota of District 5-B and withdrawal of approximately 200,000 barrels each from Districts 1 and 8.

The Committee's October allocation order contains two new paragraphs (Nos. IX and X) embodying provisions of orders approved August 28 by Administrator Ickes requiring use of legal crude and submission of certain reports by refiners (NATIONAL PETROLEUM NEWS, Sept. 5, 1934, Page 68). The paragraph referring to use of legal crude, reads:

"IX All allocations to refineries for the production of gasoline, under the provisions of Article IV of the Code, shall be for the production of gasoline from crude oil or its products lawfully imported into the United States, or withdrawn from storage in compliance with the Code of Fair Competition for the Petroleum Industry and lawful orders made thereunder, or from crude oil or its products produced in accordance with quotas established under the Code and in accordance with valid regulations or orders prescribed by any board, commission, officer or other duly authorized agency of the state where such oil was produced; and each and every allocation made to a refinery for the production of gasoline under the provisions of the Code shall be made upon and subject to this limitation."

Ickes Orders Hearing On Code Section

By Teletype

WASHINGTON, Sept. 18 ADMINISTRATOR ICKES today instructed the Petroleum Administrative Board to hold a formal, public hearing on Monday, Sept. 24, to consider amending Sec. 4 of Art. III of the oil code, which provisions deal with regulating crude production.

The amendment, proposed by the P. & C. Committe, is in the nature of a correction of the code to take care of a clerical error made in amending the section last September. At that time the amendment did not specifically mention Par. 2 of the section.

The paragraph, which provides that exceeding production quotas fixed within a state shall be a violation of the code, was a part of the code as originally approved by the President, Aug. 19, 1933. However, when the first paragraph of the section was revised slightly in September, 1933, the second paragraph was not mentioned in the order making the revisions.

The oil administration and the committee have held consistently that it is a part of the code and always has been, but to eliminate any question as to whether the second paragraph is in effect, the committee, Department of Justice and oil administration agree that a formal hearing should be held and the paragraph formally considered as part of the code.

Kentucky Marketers Hold Fall Convention

LOUISVILLE, Ky., Sept. 12. —Mixing good fun with business featured the fall convention of the Kentucky Petroleum Marketers Association held here on Sept. 11 and 12. First day of the convention was given over to a golf tournament for which prizes had been offered by various regional oil interests, Fifty-one men teed off. R. B. Taylor, Lincoln Oil Refining Co., won the low medal with a score of 75. Runner-up was A. G. Henshaw, last year's winner, who took an 82. E. B. Taylor, father of winner Taylor, captured the Blind Bogey Cup. A luncheon was held in conjunction with the golf match.

Second day of the convention was given over to meetings. The morning session for jobbers, who endorsed the formation of the State Executives Council, was conducted by G. D. Givens, Jr. A luncheon meeting, at which the golf awards were presented, was honored by the presence of the Mayor of Louisville. The luncheon was presided over by S. G. Courtney, president of the Association.

The afternoon session was addressed by Warren C. Platt, president of NATIONAL PETROLEUM NEWS, who spoke upon "A Year Under The N.I.R.A."

Experiments With Oil Code Shows Impossibility of Coercing Industry

By W. T. Holliday*

(Presented before National Petroleum Association, Atlantic City, Sept. 19-21)

I BELIEVE that any one who has been in close touch with the operation of the Petroleum Code during its first year would agree with the following statement, which was made by the Hon. Harold L. Ickes in his recent address in Titusville at the dedication of Drake Memorial Park:

"I am glad to say that between the Government, as represented by the Petroleum Administrator, and the overwhelming majority of the petroleum industry, a spirit of understanding and co-operation exists. We do not always see eye to eye, but we have never yet reached the point where we have doubted the motives or impugned the integrity of the other fellow."

The Petroleum Code has had every opportunity for success which could come from sincerity of purpose and unstinting expenditure of effort on the part of both the representatives of the federal government and the representatives of the industry. A fine spirit of public service has characterized the government's petroleum administration, and its personnel has been sympathetic and earnestly desirous of being helpful and soundly constructive. Likewise hundreds of oil men all over the country have answered every call for their services and labored earnestly in the tremendous amount of work which has been involved. Even most of those in the industry who have been sincerely skeptical and held mental reservations as to the soundness of the venture have been generous in their genuine effort not only to put nothing in the way of its success, but to do anything that might help to give it a fair trial.

No fair consideration, therefore, of the first year's operation of the Petroleum Code can be made which does not recognize and pay tribute to the truth that the Code has had every opportunity which could come from the most favorable atmosphere of well-wishing and sincere effort on the part of all who have participated in its administration. If there have been failures and disappointments that is no criticism of the men who have participated in the Code's administration. Failures and disappointments would be inevitable in the first year of such a novel exploration in uncharted seas. Also, the administration of the Code cannot be held responsible for any failures which may be inherent in the fundamental conception of the Code itself.

We shall not endeavor to discuss in any detail the labor aspects of the Code for the reason that that subject is considered in a separate paper at this meeting. A very substantial increase in employment and total payroll of the industry has resulted from the operation of the Code, but it is only natural that neither all employees nor all employers are satisfied with the effects of the labor provisions of the Code. In spite of any effort at meeting the labor problem from a national point of view, the relation between employer and employee must always continue to be essentially a personal one. The essence of the labor problem is not national but local and individual. Nationally, certain minimum standards may be set and certain social securities provided; but there will still remain the more important problems of the relations between individual employers and their employes.

It is only natural that neither employes nor employers as a class are or will be satisfied with the progress or lack of progress achieved. The problem is essentially a controversial one, and we should not be too distressed about that because social progress does not come out of a vacuum. It comes through the refinement of opposition and debate. To be sound and effective almost any idea in this world must go through the refining process of opposition and trial and error.

THE accompanying paper by President W. T. Holliday of Standard Oil Co. of Ohio, is probably the most penetrating analysis of the first year of the oil code yet presented to the industry.

The marketing branch of the industry has lost ground during the first year of the code, he finds, because of new competition of co-operatives, widening of margins permitting more price cutting and failure to enforce unfair trade practice rules on the minority.

Discussing the gasoline buying programs Mr. Holliday points out that a large part of the gasoline sold to price cutters comes from major companies. In his opinion a good many of the companies joining in the buying movement could do more good by refraining from dumping than by buying what some other company is dumping.

Mr. Holliday, as a member of the Planning and Co-ordination Committee, has had ample opportunity to watch the code administration wheels turn during the past year. He concludes that the code actually has not been government control but rather has given theorists an opportunity to try out panaceas—which have not worked. —Editor.

*President Standard Oil Company (Ohio), Cleveland.

Although it is natural to be so, therefore, no one should be too impatient about the so-called labor problem.

In considering the other parts of the Petroleum Code it should be borne in mind that the Code has two distinct and different bases. Whereas other Codes are based entirely upon the recovery theory of the National Industry Recovery Act, the Petroleum Code is based in part upon that act and in part upon the idea of conservation of a natural resource. Long before the Industrial Recovery Act was even thought of there was the same discussion of the control of production of crude oil which we have today under the Code. In the administration of President Coolidge and President Hoover the subject of crude oil conservation was being considered by the Federal Oil Conservation Board, and during President Hoover's administration efforts were made to procure federal legislation for a compact among the oil states and the federal government, and also federal legislation providing for federal control quite similar to that which is provided for in the present Petroleum Code. Also, in the last session of Congress a bill was introduced to provide for federal supervision and control of crude oil production aimed fundamentally at a legal strengthening of the federal control of crude oil production along the lines provided for in the present Petroleum Code. It is also noteworthy that in public utterances of government officials in regard to the Petroleum Code the aspects of crude oil conservation have been predominant.

THE announced theory of the National Industrial Recovery Act has been industrial self government under governmental supervision, but into the National Industrial Recovery Act was incorporated a section (Section 9c) as a substitute for the oil control bill which was pending before Congress, authorizing the President to control crude oil production through interstate shipment embargo of illegally produced crude oil or its products. The essence, therefore, of the crude oil production part of the Petroleum Code is not self government but federal control. The fixing of crude oil allowables is placed by the Code solely in the hands of the federal government.

WE call this distinction to attention for this reason. It shows that up to the time of the adoption of the Petroleum Code it was generally recognized that the essential problem of the petroleum industry was the problem of crude oil production, and that that was the only aspect of the petroleum industry possibly calling for any special governmental consideration. The refining and marketing articles of the Petroleum Code are only a part of the general program for all industry under the National Industrial Recovery Act. The only real peculiarity of the petroleum industry is its problem of crude oil production, and all other phases of the petroleum industry have been and should continue to be treated as part and parcel of the broad, national, industrial picture in considering the extent or the duration of the NRA.

Production and Inventories

Since it must be admitted that the fundamental factor is supply and demand, it is pertinent first to consider what has happened under the Code as to production and inventories.

Assuming that we date the period under the Code from the beginning of September 1933, the average daily production of crude oil, according to the Bureau of Mines figures, for the first year under the Code, that is from September 1933 through August 1934, was approximately 2,480,000 barrels, as seen in Table I.

This compares with an average of 2,145,000 for 1932, and of about 2,343,000 for the 12 months prior to the adoption of the Code. Thus the rate of crude oil production since the adoption of the Code has been substantially greater than in the period just prior to the Code—in fact higher than for any yearly period since 1929.

In considering these comparisons it should be borne in mind that the Bureau of Mines production figures may not include certain quantities of illegally produced "hot" oil, and probably since the Code there has been less of such production than in 1932 and the early part of 1933.

The Code authorities started to work with a high inventory of crude oil at the end of August 1933, to wit: 360,911,000 barrels. This inventory had been increased from April 1933 by over twenty million barrels as a result of the extremely high production during the intervening months when the State of Texas practically abandoned proration as a result of the invalidity of its Railroad Commission's orders.

THE logical objective, it would seem, should have been to reduce the excessive crude oil inventory which had been inherited. The policy, however, in fixing crude oil allowables seems to have been to fix them at practically the full estimated consumption demand and to hold withdrawals from storage as nearly as possible to zero.

The first month for which the Government fixed the crude oil allowable was the month of October 1933, and in that month there was a substantial reduction of crude oil stocks of approximately 3,100,000 barrels, bringing the crude oil inventory at the end of October down to 356,885,000 barrels. Since that date, however, down to and including the month of July 1934, the last month for which Bureau of Mines figures are available, there was practically no reduction in crude oil stocks, the crude oil inventory at the end of July 1934, according to the Bureau of Mines figures, being 355,260,000 barrels. Preliminary figures indicate an inventory at the end of August 1934 of around 350,000,000 to 351,000,000 barrels of crude oil, or a total reduction in inventory since September 1, 1933, of less than 10,000,000 barrels. This is equivalent to withdrawals from storage during the first year under the Code of only about 25,000 barrels per day.

For the past few months the Federal Agency has been urged to fix its crude oil production al-

lowable at a figure which would require substantial reductions in crude oil inventories, but so far the Federal Agency has declined to adopt this policy. The summer months of peak demand afford an opportunity for reduction of inventory which at least until August was not taken advantage of.

Table I shows the crude oil statistical situation as to production, inventories, imports, exports and prices since 1928.

It is also noteworthy that there has been an obvious lack of agreement between crude oil and gasoline allowables, both of which are fixed by the Federal Agency. The crude oil allowable in some months has been greater than the quantity required to produce the gasoline allowable. This discrepancy has forced the storage in some places of currently produced crude oil with a consequent setting up of a force tending to break down the crude oil price. Refiners compelled to store crude oil in order to conform to gasoline production allowables have lately said that either they will have to sever their well connections or reduce the crude oil price.

One explanation for this discrepancy apparently has been that the demand for fuel oil would result in a lower gasoline yield being taken. This view, however, not only overlooks the issue of conservation and waste with respect to inferior uses, which presumably is one of the bases for federal control, but is not substantiated by the yield figures for the period through July of this year as compared with the same period of last year, during which the yield of gasoline from crude oil has averaged within one-half of 1% as high as last year. For the first seven months of the year 1934 the gasoline yield from crude oil run to stills was 43.1%, as contrasted with 43.6% for the same period of the previous year, according to Bureau of Mines reports.

In judging current crude oil production from its effects upon crude oil stocks, therefore, it would seem a fair conclusion that under the Code we have barely held our own, starting as

Table I

United States Crude Oil Production, Stocks, Exports, Imports, and Prices

From Monthly Petroleum Statement United States Bureau of Mines
(Quantity Figures are in 42 gallon barrels)

	Crude Oil Production			Crude Oil Stocks End of each month	Crude Oil Imports (daily average)	Crude Oil Exports (daily average)	Avg. Okla. Well Price 36° Grav. Crude Oil
	Avg. Daily	Federal Allowable	Overage				
Yearly Averages							
1928	2,453,000				218,000	51,960	$1.31 per Bbl
1929	2,760,000				216,200	72,330	1.36
1930	2,460,000			411,882,000	170,200	64,945	1.24
1931	2,332,000			370,194,000	129,500	69,959	0.63
1932	2,145,000			339,715,000	122,100	75,000	0.87
Monthly Figures							
1933							
Jan.	2,054,000			335,351,000	91,300	62,500	0.58
Feb.	2,180,000			335,060,000	84,600	67,400	0.44
Mar.	2,429,000			341,708,000	122,700	69,000	0.44
April	2,177,000			336,499,000	97,000	98,000	0.44
May	2,734,000			343,588,000	71,100	86,400	0.29
June	2,762,000			348,197,000	71,400	146,000	0.34
July	2,722,000			350,894,000	110,000	145,900	0.53
Aug.	2,750,000			360,911,000*	118,500	101,300	0.56
Sept.	2,606,000			359,979,000*	71,500	106,000	0.85
Oct.	2,452,000	2,338,500	4.9%	356,885,000	62,100	125,400	1.00
Nov.	2,325,000	2,338,500	...	355,614,000	74,500	110,000	1.00
Dec.	2,325,000	2,210,000	5.2%	354,305,000*	100,700	87,400	1.00
Yr. 1933				354,305,000	89,800	100,500	0.62
1934							
Jan.	2,321,000	2,183,000	6.3%	353,642,000	90,320	73,800	1.00
Feb.	2,338,000	2,183,000	7.1	351,641,000	108,250	89,700	1.00
Mar.	2,437,000	2,282,000	6.8	354,067,000	77,740	83,290	1.00
April	2,526,000	2,366,200	6.8	354,350,000	94,830	131,400	1.00
May	2,576,000	2,366,200	8.9	355,883,000	97,160	120,130	1.00
June	2,668,000	2,528,300	5.5	357,239,000	119,166	126,500	1.00
July	2,631,000	2,530,300	4.0	355,260,000	86,900	133,160	1.00
Aug. (est)	2,550,000	2,449,300	4.1				
Sept.		2,341,700					
12 Months Before Code							
Sept. 1932-Aug. 1933							
2,343,000					88,575	86,830	0.60
12 Months After Code							
Sept. 1933-Aug. 1934							
2,480,000					89,340†	107,890†	0.99

*Revised figures, from later months' Bureau of Mines Reports. †11 Months.

we did with a very high crude oil inventory and having reduced it only an insignificant degree.

Crude oil production, however, must also be considered in the light of its effect upon gasoline and other inventories. Comparisons of gasoline inventories between 1934 and 1933 are quite confusing because of the change in definition of gasoline which took place at the end of 1933. Apparently, from the Bureau of Mines figures, the change of definition at that time caused an increase in the total inventory figure of finished gasoline of approximately 3,400,000 barrels. On this basis it would appear that at the end of August 1934 total inventories of finished gasoline were in the neighborhood of 2,000,000 barrels less than at the end of August 1933.

Considering the matter from the point of view of inventories of all oils—that is, crude oil, natural gasoline, and all refined products—the Bureau of Mines figures for the end of July 1934 (the latest available official figures) show a total inventory of 593,033,000 barrels, as contrasted with 605,549,000 barrels for the end of July 1933, or a total reduction of all inventories of the industry of 12,516,000 barrels. This is equivalent to approximately 34,000 barrels per day.

It should not be overlooked that the period since the Code afforded an unusually good opportunity for reduction of inventories owing to the increase in consumption of petroleum products. According to Bureau of Mines figures, the indicated demand for gasoline, kerosine, fuel oil, and lubricants alone, during the first eleven months under the Code, i.e. from September 1933 through July 1934 (the latest month available) was approximately 47,000,000 barrels greater than in the corresponding period of September 1932 through July 1933. There could thus automatically have been an additional reduction in total inventories of approximately 35,000,000 barrels had production in the eleven months since the Code

been restricted to the level of consumption in the previous period.

About all that we can conclude from statistics is that the Code authorities inherited a bad statistical situation, and have made no significant progress in improving it. It would seem evident that under the Code no real attempt has been made to improve our statistical position, and that crude oil allowables have been set from month to month on a basis solely of estimated consumer demand for the coming month without regard to previous production above allowables and without regard to inherited inventories.

Perhaps this has been politically necessary in view of the legal uncertainties involved in federal control. The Federal Agency has been greatly handicapped in enforcement of crude oil control by pending suits and injunctions. The authority of the state proration bodies, however, has been clearly upheld so long as properly exercised. It has been necessary, therefore, for the Federal Agency to work through and with the co-operation of the state authorities until its own power could be finally determined by the courts. The Federal Agency, consequently, has hardly been in the position where it could adopt the plan of reduction which it liked the best and arbitrarily attempt to put it into force. The same old political factors involved in state proration are still in operation.

The Nature of the Production Problem

So far, the control of crude oil production under the Code has proceeded along the lines which have been pursued by the states, to wit, proration. Proration is like attempting flood control by building the dam at the bottom of the valley instead of seeking to control the head waters. The fundamental cause of overproduction is the drilling of excessive wells. It is impossible to control the drilling of wells without doing something about the Court-made law of capture and the Court-made law as to the right of the landlord to compel diligent development of his property after the first well has been drilled. The essential cause of the difficulties involved in crude oil production is state property law.

Property rights, however, are subject to police power properly exercised, and the logical remedy from the point of view of conservation directed at fundamental causes would seem to be compulsory unit operation binding upon both operators and royalty owners.

The Code appears to recognize this in its provision requiring approval of a plan for development of any new field. So far, however, although many plans for development of new pools have been submitted and approved, nothing fundamental along this avenue of approach has been done. So far as I know, the plans which have been submitted and approved have been merely mark-time plans. If federal control of crude oil production is to be continued very long either under present or future legislation the question will have to be answered whether the federal government is going to continue to proceed along the proration theory of the state or whether it is going to attempt to reach fundamental causes.

This whole problem involves serious legal questions as to which there is divergence of opinion. Perhaps it may be easier to sustain the federal power under the commerce clause of the Constitution upon the basis of proration as a claimed stabilizer of economic forces affecting interstate commerce, than upon the basis of real conservation. It is possible that if real conservation should be sought, through exercise of the police power over the fundamental oil and gas property law of the States, it may be necessary to invoke the general welfare clause and the war power clause of the Constitution, as advocated by Mr. Henry L. Doherty several years ago. A number of lawyers are now inclined toward his legal theory.

At any rate, any consideration either of the future operations under the present Code or possible future federal legislation would be lacking in soundness if it failed to consider the fundamental problem as contrasted with the superficial remedy of proration.

Prices

There has been much confusion in the consideration of the industry's prices due to the fact that prices accruing to the different branches of the industry are usually considered separately as though those branches were entirely separate industries. Fundamentally, however, the only prices by which the prosperity of the industry can be fairly judged are the ultimate prices received from the consumers for the total finished products of the crude oil. Separate consideration of crude oil prices, pipe line tariffs, wholesale tank car prices, and jobbers and dealers margins is simply a consideration of the *division* of the ultimate selling price among those branches of the industry.

In considering the effect of the Code, therefore, we should consider, if possible, both the ultimate selling price of the refined products and the division of that ultimate realization among the respective branches of the industry. It is impossible, of course, to secure any exact or complete figures as to the prices actually realized on all sales of petroleum products. Various price series are available, however, relative to retail gasoline and kerosine prices, and wholesale price quotations for practically all petroleum products are, of course, readily available through the trade journals. In addition, we have through our own company figures very accurate information which probably is fairly representative. It has been customary in the trade to use the figures of 50 representative cities as an index of retail gasoline prices, and, as to wholesale prices, the quotations of the Oklahoma refineries compiled by the trade journals are generally looked upon as representative.

Looking at the average service station price for regular grade gasoline for 50 representative cities (Oil and Gas Journal figures) it is seen that there was a marked improvement in these figures beginning in June 1933 and ascending from 10.82c per gallon on the 1st of June to a peak on October 1, 1933 of 14.45c per gallon, and declining thereafter down to a level at the present time of around 13.7c. At the present time, therefore, the average retail price would appear to be only slightly above the levels of 1931

and 1932 and far less than for any year previous thereto. (See Table II.)

So far as the retail prices of kerosine, furnace oil and other light distillates sold at retail are concerned, the price trends do not differ greatly from the experience in the case of gasoline. As to heavy fuel oil, however, there has been a marked increase in price since the fall of 1933 due to the increase in industrial activity. Some of this gain has been lost in recent months.

It is evident, therefore, that there has been an increase in the ultimate realization price of the refined products of crude oil since the early part of 1933. Most of this increase, so far as gasoline is concerned, occurred in the month of June 1933. Whether this advance was in anticipation of the Code and whether the general level of realized prices up to the present time is due to the Code or merely to accompanying circumstance it is idle to argue. The Code has not operated long enough to give a proper basis for any final judgment which would be generally acceptable. After all, we are not so much interested in the temporary effects of the first year of the Code as in its sustained effects, and from that point of view statistics are of little help, since it is trends rather than past performance in which we are interested.

Changes in Division of Revenue

As to the division of the ultimate realization prices of the finished products among the various branches of the industry, it is manifest that the producers and (as will be pointed out later) the dealers, have been given a larger share than they had before the Code. There is no question but that one effect of the Code has been to increase the crude oil price. It has not, however, been the cause of all of the increase which the $1.00 (per barrel) crude which we have had under the Code represents over the low crude oil price of May 1933. That low price was due to the break-down of proration in East Texas as a result of the orders of the Texas Railroad Commission being held invalid.

Similar sharp declines in crude oil price followed by rapid recoveries have occurred in the past. The price collapse of early 1933, for example, was in many respects similar to that which occurred in 1931 and, indeed, was occasioned by the same factor, namely, uncontrolled production in the East Texas field. In 1931 the Mid-Continent crude price fell to a lower level than it did in 1933, 36 gravity Oklahoma crude in 1931 dropping to 18c a barrel. It later recovered to 92c, an increase of 74c. In 1933 the price fell to 25c and recovered to $1.00, an increase of 75c.

There is no question, however, but that the crude oil price rose more rapidly and probably to a higher point in 1933 than it would have done without the influence of the Code. Those crude oil purchasers who were in favor of price fixing were anxious to raise the price of crude oil as rapidly as possible, so that if price fixing went into effect it would not have to lift the price too far and too rapidly.

Those opposed to price fixing were anxious to lift the price as rapidly as possible in the hope that it would prevent price fixing. Quite clearly the producers are indebted to the Code for $1.00 crude oil, and equally clearly the unintegrated refiner owes his high cost of crude oil to the Code.

So far as the refining branch of the industry is concerned, it has received a smaller division of the gross revenue per barrel since the Code than it had in the twelve months' period prior to the Code, and a smaller share than it had in any previous years except 1931 and 1932.

Table III is given to indicate the situation of the refining part of the industry. It is aimed to show the margin which a typical Oklahoma refinery has had since 1928 between the well price of Oklahoma crude oil and the total value of the refined

Table II

Gasoline Inventories, Prices and Margins

	Gasoline Stocks End of Month (000's Bbl.)[1]					Gasoline Prices and Margins		
	Finished Gasoline							
	At Refineries	At Bulk Terminals	Total Finished	Unfin. Gaso. at Refineries	Natural Gasoline (all)	Avg. Retail Price in 50 Representative Cities, 1st of Month[3]	Wholesale Tank Car Price f.o.b. Okla.[3]	Margin Between Retail & Wholesale Gasoline Prices[4]
Yearly Averages								
	— Old Basis —							
1928.....	Prior year's figures					17.63c/Gal.	7.10c/Gal.	10.53c/Gal.
1929.....	not comparable					17.91	7.50	10.41
1930.....					3,100	16.33	6.10	10.23
1931.....	32,352	20,049	52,400		2,825	13.10	3.50	9.60
1932.....	31,329	19,273	50,600		3,203	13.30	4.30	9.00
Monthly Figures								
1933								
Jan.....	33,416	19,143	52,600		3,198	12.54	2.61	9.93
Feb.....	35,652	19,732	55,400		3,397	11.63	2.50	9.13
Mar.....	36,882	20,126	57,000	Not	3,548	11.49	2.36	9.13
Apr.....	35,881	20,223	56,100		3,590	11.58	2.25	9.33
May.....	33,757	21,310	55,100		3,966	11.60	2.42	9.18
June.....	30,582	20,236	50,800	avail-	3,763	10.82	3.40	7.42
July.....	30,142	20,198	50,300		3,723	13.06	4.41	8.65
Aug.....	29,038	19,651	48,700		3,779	13.52	3.96	9.56
Sept.....	28,747	20,770	49,500	able	3,545	14.00	4.80	9.20
Oct.....	28,572	21,790	50,400		3,287	14.45	4.72	9.73
Nov.....	27,308	23,124	50,400		3,125	14.30	4.70	9.60
Dec.....	29,595	22,645	52,200		3,186	14.17	4.55	9.62
Yr. 1933	— New Basis —					12.76	3.56	9.20
Memo: (Jan. 1)	34,760	20,848	55,600	8,583	3,652			
1934								
Jan.....	37,773	20,272	58,000	8,294	3,906	14.32	4.47	9.85
Feb.....	41,852	20,267	62,100	8,725	3,785	13.87	4.58	9.29
Mar.....	41,783	20,482	62,200	8,484	3,926	14.18	4.22	9.96
April.....	40,914	20,425	61,300	8,110	4,269	13.57	4.38	9.19
May.....	36,507	20,701	57,200	7,330	4,420	13.55	4.59	8.96
June.....	33,885	20,332	54,217	6,905	4,574	13.93	4.44	9.49
July.....	33,135	19,334	52,469	6,442	4,551	14.06	4.36	9.70
Aug.....						14.07	4.50	9.57
Sept.....						13.70[5]	4.50(Sept. 15)	9.20

[1] From Monthly Petroleum Statement, U. S. Bureau of Mines.
[2] As quoted in Oil & Gas Journal—Prices are for regular grade gasoline, exclusive of all taxes.
[3] Low of Chicago Resale Market f.o.b. Group 3, as quoted in National Petroleum News, for
"U. S. Motor Gasoline" 1928 to Oct. 1931
57-65 Octane U. S. Motor Gaso. Oct. 1931-Apr. 1933
60-64 Octane U. S. Motor Gaso. May 1933-July 1934
63-70 Octane U. S. Motor Gaso. Aug. 1934 on.
[4] Computed by subtracting wholesale tank car price from 50 Cities Retail Price.
[5] Estimated Average as of September 15, 1934.

products. Such a tabulation, however, must be considered with careful reservations and not as representative of any particular refinery.

It is easy to criticize it because it is impossible for such a composite tabulation to represent the actual condition in any particular refinery and because it does not include every product that is made from crude oil. Lubricating oil, for instance, is omitted because of the great variety of grades and because most of the unintegrated refineries at least, do not make lubricating oils. Also, a lubricating plant is a separate manufacturing proposition entitled to stand on its own feet in the matter of increasing the value of a part of the crude oil which would otherwise go into gasoline and other products.

With these reservations the tabulation is of value as indicating the trend, since the same arbitraries are taken for each year. No attempt is made in Table III to show the cost of transporting the crude oil to the refineries and of processing it into the refined products, as compared with the margin available to cover these costs which is shown in the column at the extreme right. It seems likely, however, that for most Oklahoma refineries these combined transportation and refinery costs would be at least 55c to 60c a barrel.

I think about all we can conclude, therefore, as to the price aspect of the first year under the Code is that, averaged over that period, there has been some increase in the revenue of the industry, but that as compared with any fairly representative previous period there has been no significant change or improvement. The only significant change has been in the division of the gross revenue among the various branches of the industry.

Transportation

No action has been taken under the transportation article of the Code. Many voluntary reductions in tariff rates have been made by the pipe line companies. Some refineries claim that the reductions have not been sufficient and other refineries claim that no reduction should have been made. Still other people in the industry insist that there should be divorcement of pipe lines from the other branches of the oil industry. In view of the controversial nature of the whole general pipe line situation and in view of the fact that the pipe lines are under the jurisdiction of the Interstate Commerce Commission it would not be reasonable to expect any action under the Petroleum Code in its first year.

Marketing

The marketing section of the present Code followed, in gen-

Table III

Wholesale Value of Typical Refined Products of Oklahoma Crude Oil vs. Well Price of Crude

(Based Upon One 42-Gallon Barrel of 36 Gravity Oklahoma Crude[5])

Yield—Gal. per Bbl.[5]	Gasoline Middle Grade[1] 22		Kerosine 41-43 Gravity[2] 3		Light Distillate[3] 2		Fuel Oil and Refinery Gas[4] 14		Total Products 41	Crude Price at Well 36 Grade	Margin Left for Transportation and
Yearly Averages	Price Cts./Gal.	Value 22 Gal.	Price Cts./Gal.	Value 3 Gal.	Price Cts./Gal.	Value 2 Gal.	Price Cts./Gal.	Value 14 Gal.	Value 41 Gal.	Okla.	Refining Cost
1928	7.10	$1.420	5.17	$0.180	3.50	$0.090	1.65	$0.248	$1.938	$1.31	$0.627
1929	7.50	1.500	5.17	0.180	3.60	0.090	1.47	0.221	1.991	1.36	0.631
1930	6.10	1.340	3.58	0.107	2.94	0.058	1.45	0.203	1.708	1.24	0.468
1931	3.50	0.770	2.31	0.069	1.85	0.037	0.85	0.119	0.995	0.65	0.345
1932	4.30	0.950	3.15	0.950	2.38	0.048	0.93	0.130	1.223	0.87	0.353
Monthly Figures											
Jan. (1933)	2.61	0.575	3.15	0.095	2.95	0.058	1.07	0.150	0.878	0.577	0.301
Feb.	2.50	0.550	2.56	0.076	2.45	0.049	0.95	0.133	0.808	0.440	0.368
Mar.	2.36	0.520	2.40	0.072	1.99	0.040	0.85	0.119	0.751	0.440	0.311
Apr.	2.25	0.495	2.44	0.073	1.73	0.035	0.75	0.105	0.708	0.440	0.268
May	2.42	0.533	2.72	0.082	1.72	0.034	0.75	0.105	0.754	0.293	0.461
June	3.40	0.749	2.59	0.078	1.84	0.037	0.85	0.119	0.983	0.339	0.644
July	4.41	0.970	2.60	0.078	2.12	0.042	0.90	0.126	1.216	0.527	0.689
Aug.	3.96	0.873	2.41	0.072	2.14	0.043	0.95	0.133	1.121	0.562	0.559
Sept.	4.80	1.057	3.12	0.094	2.70	0.054	1.25	0.175	1.380	0.846	0.540
Oct.	4.72	1.040	3.32	0.097	2.90	0.058	1.38	0.193	1.390	1.000	0.390
Nov.	4.70	1.030	3.27	0.098	2.90	0.058	1.40	0.196	1.382	1.000	0.382
Dec.	4.55	1.000	3.25	0.098	3.13	0.063	1.50	0.210	1.371	1.000	0.371
Year 1933	3.56	0.708	2.82	0.085	2.38	0.048	1.05	0.147	1.063	0.620	0.443
Jan. (1934)	4.47	0.990	3.25	0.098	3.10	0.062	1.52	0.213	1.363	1.000	0.363
Feb.	4.58	1.010	3.25	0.098	2.85	0.057	1.60	0.224	1.389	1.000	0.389
Mar.	4.22	0.930	3.31	0.099	2.69	0.054	1.62	0.227	1.310	1.000	0.310
Apr.	4.38	0.965	3.62	0.109	2.82	0.056	1.66	0.232	1.362	1.000	0.362
May	4.59	1.020	3.50	0.105	2.75	0.055	1.78	0.248	1.423	1.000	0.428
June	4.44	0.977	3.22	0.097	2.63	0.053	1.66	0.232	1.359	1.000	0.359
July	4.36	0.959	3.16	0.095	2.47	0.049	1.64	0.230	1.333	1.000	0.333
Aug.	4.50	0.990	3.09	0.093	2.51	0.050	1.64	0.230	1.363	1.000	0.363
Year before code Sept. '32-Aug. '33	3.40	0.748	2.79	0.084	2.20	0.044	0.90	0.126	1.002	0.600	0.402
Year after code Sept. '33-Aug. '34	4.53	0.997	3.28	0.098	2.79	0.056	1.55	0.217	1.368	0.990	0.378

[1]See Table II, Footnote 2. [2]Oklahoma 41-43 Gravity, NATIONAL PETROLEUM NEWS. [3]Average of 32-36 Zero Gas Oil and 38-40 Furnace Oil, NATIONAL PETROLEUM NEWS. [4]Average of 24-26 and 14-16 Fuel Oil, NATIONAL PETROLEUM NEWS. [5]Yields based upon simplified analysis of Bureau of Mines Reports for refineries in Oklahoma, Kansas, Missouri districts, and giving refinery gas same value as fuel oil. One gallon loss per barrel assumed.

eral, the old voluntary code (approved by the Federal Trade Commission) which preceded it. In both Codes there is one essential idea and only one. It is that marketers must post their prices and must abide by those prices and not deviate therefrom either directly, or by indirection or subterfuge, such as the loaning of equipment, the giving of premiums, or the like.

In the present Code, however, that central idea was elaborated upon by detail after detail of involved and specific prohibition, so that we began with a Marketing Code that went beyond the expression of a fundamental principle and undertook to specify all the particular acts which violated that principle.

THERE is a fundamental rule of statutory construction that if a statute in this way attempts to enumerate all of the specific acts which constitute violations, then any acts which are omitted are not prohibited. The inevitable result was that the Planning and Co-ordination Committee was immediately confronted with gaps in the prohibitions and was buried by a tidal wave of requests for interpretations.

As each new act or variation appeared which had not been specifically prohibited and which seemed contrary to the general principle of the Code, the gap had to be plugged with a new interpretation, regulation, or amendment of the Code. Started by the Code itself, inevitably there was built up a maze of specific rules of individual conduct of such magnitude that today only a man devoting practically his entire time to its study can tell what the rules of the game really are.

It is idle to criticize the Code authorities for this situation. When a code starts out to make specific prohibitions aimed at regimenting hundreds of thousands of people in the details of their business on every matter which the Code drafters could think of, the Code authorities cannot stop the breeding process.

They are, however, subject to just criticism for the issuance of so-called interpretations which are not interpretations but additions to the Code. Desirable as such unauthoritative code making may seem from the point of view of a result which we wish we could have, it breaks down respect for the Code by the promulgation of orders which everyone knows cannot be enforced. There are enough problems as to the enforceability of the Code without adding things which are clearly unenforceable.

Another aspect of Code change, which is more in the twilight zone of legality, has been the amendment of the Code by Presidential order. In the beginning it was the general opinion of lawyers that under the National Industrial Recovery Act the President might modify the Code but could not amend it.

The distinction between modification and amendment was a fine one, but care was taken to try to keep within the distinction.

When the change in the Production code relating to quotas in commerce was contemplated, for example, it was felt necessary to treat this as an amendment and have it initiated by various trade associations. Gradually, however, the distinction has been lost sight of, and either with or without the recommendation of the Planning & Co-ordination Committee changes in the Code have been made by the government without regard to whether such change may be in effect the writing of a new Code.

BOTH through the pretext of interpretation and of Code modification, therefore, the door has been opened for individuals to get their personal views incorporated into law without having them pass through the normal process of legislative enactment. This is an example of what is meant by a government of men as distinguished from one of law.

While these comments are equally applicable as to the other articles of the Code, we make them especially in connection with the Marketing Code because so far the effect has been more noticeable in the marketing branch of the industry.

For the first few months after the adoption of the Code there was quite general observance of the fundamental principle of the Code, adherence to posted prices. But as leaflet after leaflet from Washington fell upon the desks of marketers, adding more and more elaboration and confusion, some people began to wonder how there was to be any enforcement.

Local code committees found that there was hardly a marketer who, inadvertently or otherwise, was not violating at least some fringe or other of this complicated prohibition system. Not even the United States Army could have procured universal observance of every rule. And so some people, when they saw this situation, began to wonder whether even the fundamental principle of the Code would be enforced. Then chiseling "under the canopy" began again.

They guessed right. There has not been any serious effort at enforcement, even as to fundamental principles. The Marketing Code today is practically as voluntary in character as was the old code. It is breaking down of its own weight and because of the lack of any real attempt at enforcement.

The question, frequently raised, of whether marketing control should be continued after the NRA expiration date, is today almost an academic one because the Marketing Code already has practically ceased operation. The blame for this lack of enforcement cannot be placed upon the Code authorities. They have responsibility without corresponding authority. There is a division of responsibility and authority under the fundamental law, in that enforcement is in the hands of the Department of Justice. Thousands of complaints are in its hands, but quite evidently and naturally it wants to sweat through the period of the NRA if possible without any adverse decisions which might imperil the fundamentals of the NRA itself.

Marketing Margins

One of the most vital developments under the Marketing Code does not emanate from the

Code itself but from collateral action pursuant to the Code. I refer to the effects of the efforts at price fixing and the subsequent National Marketing Agreement.

At the time of the adoption of the Code the industry was split into two camps, those favoring and those opposed to price fixing. The Code as finally approved left this issue still open. Immediately upon formation of the Planning & Co-ordination Committee the issue occupied almost the entire time of the committee for many weeks. Even organization was postponed.

THE price fixers were in the majority, and a national price schedule was submitted to the Petroleum Administrator. This schedule provided for a widening of the margin between tank car and service station price to 6.5c per gallon. The entire addition to the prevailing margin was to be given to the dealers, since the latter were to receive a minimum margin of 4c, to which, under the custom of the trade, an additional ½c would be given to controlled or exclusive accounts, thus leaving the jobber only the same 2—2½ cent margin between his tank car purchase price and the dealer price which he generally had had prior to the NRA.

Final consideration of the price fixing schedule by the Petroleum Administrator was suspended by a truce between the opponents and proponents of price fixing, under which a so-called Marketing Agreement was agreed upon as a substitute, provided its signing by a sufficient proportion of the refiners could be obtained. This Marketing Agreement had most of the vices of price fixing without the merit of being even superficially binding upon and enforceable against the entire industry.

Of this Marketing Agreement an article in the *Nation* commented that it indicated that the opponents of price fixing who sponsored it evidently were not opposed to price fixing in principle, provided they could do the price fixing themselves.

This Marketing Agreement, like the proposed price fixing schedule, undertook to fix the margin between the tank car price and the local service station price, although it fixed it at 6c instead of 6.5c. As in the price fixing schedule, however, any increase in the spread went to the dealer, the dealer by the Marketing Agreement being guaranteed a minimum margin of 3.5c as to divided accounts and 4c as to undivided accounts. The jobber was still left with the old margin between tank car and dealer price which he had had before the NRA.

Under this Marketing Agreement the refiner-marketer bore the entire burden of the increase in the total margin on both his jobber and dealer business, and the jobber bore the entire burden on all of his dealer business. Proportionately, the jobber and the refiner-marketer had incurred a much greater increase in labor costs as a result of the NRA than had the dealer, but neither the proposed price schedule nor the Marketing Agreement gave them any relief.

IT IS not irrelevant in this regard to note that there are hundreds of thousands of dealers and only a relatively small number of refiners and jobbers. Hundreds of thousands of dealers can make more noise than the refiners and jobbers, and it is interesting to note that even business men, when they come into pseudo-official positions, become susceptible to the usual political pressures.

The result of the Marketing Agreement, although it was never put into effect, was to put such pressure upon refiner-marketers and jobbers from the dealers that the marketing margin provided therein was rather promptly put into effect. There was such general confidence that the Marketing Agreement would become effective that this yielding to the pressure of the dealers seemed only anticipating the effect of the Marketing Agreement by a brief period. The outstanding development in marketing during the first year of the Code has been this increase in marketing allowances to resellers and therefore in marketing costs.

The history of the marketing part of the industry in the last 15 years has been the history of margins. The pressure of crude oil seeking a market brought about excess refining capacity which in turn, seeking a market for gasoline, brought about an excess of distribution facilities. The means for creating these excessive distribution facilities was the bait of wider and wider guaranteed margins which attracted new jobbers and dealers into the business.

This widening of margins through the bringing of more and more people into the marketing end of the business, resulted in declining gallonage per outlet and consequent increasing marketing cost per gallon with the resultant urge on the part of jobbers and dealers for still wider margins.

Another result was to set in motion a new economic force to counteract this widening margin. The wide margin between wholesale price and retail price naturally attracted price cutters, who, so long as their price cutting was not met, could operate on a much narrower margin because of the resulting large gallonage their price cuts brought them.

The marketing industry had come into the situation of excessive number of outlets and excessive distribution cost by reason of widened margins, and the situation could only be corrected by a reversal of the process and a narrowing of the margins. The price cutters were forcing such narrowing of margins and consequent reduction of marketing costs. Since 1929 there had been a marked decline in the actual spread between the service station price and the wholesale tank car price as shown in the last column at the right of Table II.

IN RESPONSE to the presence of this narrowing of the actual spread between the retail price and the wholesale tank car price, the contract margins guaranteed to jobbers by refiners and the margin given to dealers by jobbers and refiner-marketers also had been declining.

During the period of the past year in which the dealers' margin has been widened other forces have been at work break-

ing down the ultimate retail price and forcing the burden of the widened marketing margin back upon the refiners. During that period there has been a marked increase in the number of so-called trackage stations and price cutters, and a tremendous increase in the activities of co-operatives pursuant to the President's Order extending the exemption of farmer co-operatives to other co-operatives.

The exemptions in the Code and the Presidential Order in regard to co-operatives have had a very marked effect. Trackage stations have been converting themselves into co-operatives, and there has been a tremendous increase in the gallonage of co-operatives generally. In Ohio, for example, the largest co-operative did practically as large a gallonage in the month of May 1934 as it did in the entire year 1933.

In the face of the economic forces which have been at work for quite some time driving the ultimate retail price down closer to the wholesale tank car price, it is manifestly impossible for the conventional distribution system to carry the burden of the present wide dealer margins. No Code, or any other form of planned economy, can insure to jobbers and dealers any guaranteed margin which runs counter to the economic forces. The wide guaranteed margin breeds its own destruction. If dealers were given a six cent margin today they would be in a worse position a year or two hence than they are at present. Already in the past year there has been a very serious amount of diversion of business from old established channels into new ones.

Dealers and jobbers, however, will continue to clamor for wider margins. Who is to pay the bill for them? With the price cutting forces at work it is manifest that the public will not pay it, which means that the only persons left to bear the cost are either the refiners or the producers or both. Thus far the refiners alone have paid the bill, and if the past is any criterion they will continue to do so as long as the industry continues to attempt to run counter to economic forces.

In my humble judgment, the marketing part of the industry is worse off today than it was before the Code, and the work and evolution of three or four years have been undone. In the year preceding the adoption of the Code there had been quite a general narrowing of guaranteed margins and a narrowing of the spread between service station and wholesale tank car price, and marketing branch of the industry was accommodating itself to that situation. Now the painful process will have to be repeated.

W. T. Holliday

Refining Control

Except as to its labor provisions, little attention was given in the original Code to the refining branch of the industry, and the few brief paragraphs of the original Article IV covering refining stood out in sharp contrast to the imposing list of regulations and prohibitions of the marketing and production sections of the Code. Yet under the Refining Article of the Code, especially as amended on April 24, 1934, we have gone farther toward what may be called regimentation than at any other point. From a rather mild beginning, in November and December 1933, of an effort to bring about some reduction in gasoline inventories and to keep them in reasonable balance with requirements, we have moved on step by step until now we have a complete system of refinery control under which each and every refiner in the land is assigned each month a quota of the quantity of gasoline which he may produce. Probably under few if any other important manufacturing codes has any program departed farther from the tradition and conception of competition.

The purpose of the refinery control program in action, when analyzed, appears to be rather different from what the language of Article IV of the Code would indicate it to be, that is, the achievement of a proper balance between gasoline inventories, production, and requirements.

As operated, the gasoline allocation program under Article IV has really been endeavoring to be the hand-maiden of the various gasoline purchasing programs which have been undertaken, seeking to coerce the refiner-marketers having their own marketing outlets to participate in the purchasing program. It appears to be used as a device to distribute business among refining competitors and to force refiners having adequate marketing outlets to share those outlets with refiners who do not have such outlets. Also, it seems clear from the allocation figures which have been set for the various refineries so far, that another unavowed purpose is to freeze the industry to the past by tending to base allocations upon past performance and by holding down allocations to an aggressive refiner-marketer so as to prevent further rapid expansion of sales.

Supplementing the refinery control program have been several successive purchasing programs which appear to be based upon the theory that by providing a market for distress gasoline which ordinarily would go through brokers at distress prices the spot tank car market will be improved. Under these purchasing programs it is planned that the price paid should be higher than the offending product presumably would otherwise bring, and that the purchases should be made by refiner-marketers who, in order to accommodate such new supplies, necessarily must lay idle a part of their own refining capacity. The general plan evidently does not contemplate that the sources of such distress gasoline, once relieved of their excess, shall be prevented from replenishing the same by re-

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Many millions are now spent by the public to put their cars in shape for winter service. Several times this present amount can be developed through the systematic salesmanship by oil companies of the oil products, services, accessories and so on which logically tie in with putting a car in shape to operate during the winter.

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Join the Treasure Hunt. Study and put to use this special editorial material, in N. P. N. starting September 26.

duced gasoline allocation, but on the contrary, the operation is to be repeated indefinitely.

There is abundant room for difference of opinion as to the economic soundness of this general plan, but at any rate, it would seem obvious that the refining control is not being exercised for the accomplishment of the avowed purpose of Article IV of the Code, but rather for the purposes of price raising and a redistribution of the refining business.

So far, the program has met with no success in raising the wholesale price, but the proponents of the plan probably would say that the wholesale market would be even lower except for the operation of the plan.

The industry itself is wholly responsible for this whole general program. The Administration appears to have given only passive support to it, and although the refinery control program has now been in operation for about 11 months, with violation of the quotas occurring every month, as reported by the violators themselves, there have been no prosecutions.

There would seem to be room for doubt as to the enforceability of the amended Article IV and much greater room for doubt as to the enforceability of allocations made thereunder which do not conform to the avowed purpose of the amended Article IV. The manifest purpose of Article IV would seem to be to control any gasoline overproduction where it occurs rather than to force curtailment somewhere else in order to make room for it.

The purchasing program aims to take up the gasoline which would otherwise go to brokers and price cutters with resulting demoralization of markets, and seems to assume that the only source of such gasoline is unintegrated refineries which do not have their own outlets.

In considering the possibility of success of purchasing programs it might be well to *investigate* the sources of the distress gasoline which is disturbing markets. If a substantial amount of that so-called distress gasoline is coming from the companies which are purchasing gasoline pursuant to the program, then it would not be irrelevant to ask whether such purchasing companies who themselves sell distress gasoline could not contribute more to stabilization by themselves refraining from dumping. If the gasoline which these purchasing companies acquire is to be sold by them as distress gasoline what good does it do to have the gasoline pass through an intermediate channel?

An analysis of the gasoline tax figures for Ohio indicates that about 30 per cent of the gasoline moving to price cutters in that state is sold directly to such price cutters by the so-called major companies. The larger part of price cutters' gasoline in Ohio comes to them from brokers, and we do not know how much of such gasoline is procured by those brokers from so-called major companies, but it is probably substantial.

Major companies participating in the buying program are even selling unbranded gasoline to price cutters on marginal contracts. I think it is safe to say that a much larger quantity of unbranded gasoline is being sold in tank car lots to price cutters by the so-called major companies than the amount of the

purchase which they are making under the purchasing programs.

I do not suggest that anything ought to be done about this by any one except the companies concerned, but I suggest that if something is to be done, a setting of their own houses in order by the purchasing companies would be more effective than their purchasing programs.

Conclusion

Some day we may look back upon the Petroleum Code as a laboratory in which the various schools of thought in the industry were given an opportunity to try out their panaceas. The price fixing school had its day, and in its efforts to devise a national price schedule learned something about the difficulties of price fixing. The proponents of cartels in the form of a national marketing agreement in turn had their opportunity and came to realize the power of the last 15 per cent who stay out of such an agreement. The new school, which, abetted by refinery control, would bail the ocean by purchasing gasoline, is now having its day.

Back on the side lines the Federal Agency has sat tolerantly by while the industry has attempted to experiment in the superficial horizon above the crude oil production. There has been much criticism of the Federal Government lately as an invader of individual freedom of action, but it is interesting to note that in the Petroleum Industry it has been the industrialists themselves rather than the Government which has sought to do economic planning by regimentation of individual conduct. The initiative in practically all matters other than crude oil control has been taken by the industry itself and not by the Government.

The events during the past year under the NRA seem to have demonstrated that there can be no effective economic planning which is based upon mere regimentation of individual behavior. So long as economic forces are at play which make it natural for masses of people to do certain things, it is not practicable, in this country at least, over any extended period to coerce people into behaving unnaturally.

It is not natural, but rather abnormal, for people to do what the overwhelming majority consider to be immoral, and within that narrow range there may be regimentation of the conduct of a small minority, as under our criminal laws. But where, however, no such question of morality is involved, the general events of the past year would seem to have demonstrated that if there can be any effective economic planning in this country, it must be on a basis of controlling and directing fundamental economic forces so that people, reacting to those forces naturally and without coercion, will behave in the way which is desired.

Stripper Wells Defined By P. & C. Committee

WASHINGTON, Sept. 14.—The Planning and Co-ordination Committee today announced a definition of "stripper" wells, based on recommendations of the regional committees on production.

Included under this definition are wells of such small production and low gross revenue that their owners are unable to operate them under the labor provisions of the code.

The definition is based on aggregate gross income from the working interest, over a six months' period, of a maximum of 40 cents per day per 100 feet in aggregate depth of the wells; or an average gross return for working interest of $4 a day, regardless of average depth.

The announcement of this definition has been awaited for some time by oil operators and representatives of organized labor. It is called for by the terms of Sect. 1, Art. 2, of the code, which provides: "Definition of 'stripper' wells shall be made in various fields and areas by the Regional Committees, subject to the revision and approval of the Planning and Coordination Committee." The following specific definition was adopted:

"The wells in any group of wells, upon a single lease or group of leases within a single pool, operated by the same pumper or pumpers and which did not return in aggregate gross income from the working interest, over a six months' period (said period to begin on April 1 and on Oct. 1 of each year), an amount in excess of 40 cents per day per 100 feet in aggregate depth of the wells in such group, are declared to be 'stripper wells.'

"Any such group of wells, as above described, which do not return from the working interest an average gross income exceeding $4 per day per well during such six months' period, shall be considered as 'stripper wells' regardless of the depth of such wells."

Wells are not to be included unless they have produced oil for at least 120 days during a six months' period of computation.

An operator who feels that his wells should come within the classification, for code administrative purpose, of "stripper wells" even though they do not come within the specific definition given, may petition his state or regional production committee for a hearing.

If the committee feels that the particular conditions regarding his wells are such that the labor provisions of the code cannot be carried out in their operation and leave a reasonable margin for the operator, the committee may certify the wells in the "stripper classification."

It is also provided that, where employes feel that conditions regarding the production of certain wells are such that wells falling within the "stripper" classification should be reclassified as non-stripper, they may appeal for a hearing before state or regional committees.

Petroleum as Chemical Raw Material Discussed at Chemists' Sessions

By Arch L. Foster
N. P. N. Staff Writer

CLEVELAND, Sept. 13

MEETINGS of the American Chemical Society always present ideas along two lines. First is what industrial chemistry is doing today, second is what it will likely be doing tomorrow.

Programs of the Petroleum Division of the Society show the subjects which are uppermost in the minds and work of the petroleum chemists, which subjects direct the process destinies of the refining industry. They show the technical problems which have been worked out to the public discussion stage or during and at the close of the research work.

But petroleum, gas and fuel, and organic division programs disclose far more than immediate activities. They give a glimpse of what petroleum chemistry will be in the future. They outline the progress of the art and science of converting crude oil into products suitable for industry's needs. They show where the industry is going, technologically. They show, in test tubes, what the industry will be making by the tankful, in the near or distant future, how it will be made, or what its properties will be when made.

The 88th meeting of the society at Cleveland this week illustrated clearly the two major trails being blazed by petroleum and gas chemists. Raising the quality and the yields of products already made and commercially important is one trail constantly under construction, always being improved.

By this means, and this means alone, is the industry able to keep pace with the demands of consumers, and through painstaking effort, with the advances developed by competition. In this degree the fate of the industry, — its industrial health,—is in the hands of the chemists.

Of far greater importance, ultimately, is the development by the chemist and the engineer of new uses for old products, and particularly for new products from crude. Consider the light products of petroleum and natural gas. These hydrocarbons heretofore have had two purposes, motor fuel and heating; no other important uses appeared to the layman to be in sight.

But the chemist discovers, or is discovering how to produce wood alcohol, formaldehyde, acetylene, hydrogen gas, from natural gases, mainly methane, CH_4.

METHYL, or wood, alcohol has a myriad applications in chemical industry. Benzene is possible from acetylene, so is naphthalene. From these two compounds, and their homologues, come that inexhaustible list of products, dyes, explosives, pharmaceuticals, and so on, which make up the aromatic chemistry of commerce. From formaldehyde comes the synthetic resins, such as the bakelite type, preservatives, etc. Carbon black is indispensable to manufacturing.

The pentanes, also light hydro-carbons can be decomposed to form a long line of products, amyl alcohol, amyl acetate, "banana oil," indispensable in the lacquer industry. From amylene a huge family of addition and condensation products may be synthesized. Propane yields a series of similar products which, along with the others mentioned and many more, stagger the imagination with the possibilities for the research chemist.

The decomposition of these products, and their use in synthetic production of a host of commercial materials was discussed at length during the recent meetings, and the possibilities as well as the realities. Charles Allen Thomas showed the possibilities from the decomposition of penthanes, and outlined the difficulties and problems faced by the chemist who would convert this hydrocarbon to useful purposes. Several others drew aside a part of the veil which shrouds the mystery of hydrocarbon chemistry, as yet only slightly explored.

One of the most useful tools of the refiner has proved to be the use of inhibitors which prevent or delay the formation of gums in cracked distillates and motor fuels in storage. Loss of octane value storage periods and the formation of gums which formerly caused series troubles in service, militating against the use of cracked fuels, was until three years ago the bugbear of every refiner.

To avoid gum formation, severe chemical treatment of cracked distillates with sulfuric acid and other strong chemicals was formerly resorted to. The result was invariably a costly loss of material and of octane rating in the finished fuel, which for a time made it difficult for the cracking plant to make good on its possibilities as a means of improving the knock rating of gasoline. The introduction of inhibitors has permitted the refiner to save the octane rating, the volume loss from treating, and the expense thus involved.

On a test of 36 samples of gasoline treated with inhibitor, the laboratory of Universal Oil

Products Co. demonstrated that no sample with more than 230 minutes induction period and low initial gum test would form more than 15 milligrams of gum by the air-jet method. It was decided that a gasoline showing an induction period of more than 240 minutes, with low copper dish gum test, will likely be safe from objectionable gum formation for more than a year in storage.

The same laboratory, as reported by C. D. Lowry Jr., Gustav Egloff, J. C. Morrell and C. G. Dryer, found that certain types of dyes also serve admirably as inhibitors. The idea was suggested by work done during and after the war, in preventing the decomposition of synthetic materials by dyeing them a more "resistant" color. Standard Oil Co. of New Jersey has patents on such materials.

Dyes for this purpose should be oil-soluble, it is stated by the authors. This precludes the use of many commercial dyes soluble chiefly in water. Of the dyes investigated, all of which contain organic groups which possess inhibiting power, the azo dyes from the naphthols, catechol, phenol and pyrogallol appear most effective.

Indophenols are also effective, as are some commercial dyes. The depth of color of the dye in cracked distillate in any known concentration is an indication of both its strength and its concentration at any given time, it was found. The dye gradually becomes more nearly colorless as it exerts its inhibiting action, until finally the gasoline is practically colorless.

The leuco-indophenols show a peculiar reaction when added to gum-forming distillates. Colorless at first, the solution of dye in distillate gradually develops color as the dye exerts inhibiting action. As time goes on this color fades as the inhibiting power decreases. It is stated that, as long as the leuco-indophenol is present, the gasoline's color will probably intensify, which may prove to be advantageous commercially, since it will prevent the fading of motor fuel colors during storage or before sale.

Dr. C. R. Wagner, re-elected secretary-treasurer of the Petroleum Division, American Chemical Society

Dr. F. W. Sullivan, Standard Oil Co. of Indiana, retiring chairman of the Petroleum Division, American Chemical Society

The investigations of the efficacy of gum inhibitors by several laboratories, typified by the results reported here, have shown that much remains to be discovered regarding the application of this principle to the improvement of motor fuels. Its development will doubtless go hand in hand with the development of better cracking technology. Some means must be found, with our present knowledge of cracking, to retain the octane rating of fuels, once it is a part of the distillate, and without causing the objectionable gum and other side reactions which cannot be tolerated.

Dr. J. C. Morrell, Universal Oil Products Co., new vice-chairman of the Petroleum Division, American Chemical Society

Since the use of suitable inhibitors saves the refiner in this country several million dollars per year in treating costs, and the motorist gains gasoline quality thereby, it is the best type of economy for the refiner to spend considerable sums in intensive research on this problem.

One of the best and most enlightening investigations yet carried out by the refining or automotive industries on motor fuels is the intensive research by T. A. Boyd and collaborators, of General Motors research staff, on the anti-knock properties of pure hydrocarbons of the gasoline boiling range. More than 100 pure compounds have been studied to determine the octane ratings of these hydrocarbons when used as motor fuels. These compounds belong to the paraffin, naphthene, and aromatic series, named in ascending order of anti-knock properties.

The test conditions employed varied over a range of 14 ratios. "In general, the qualitative general correlations between knocking characteristics and molecular structure previously found for such hydrocarbons,

when measured in dilute solutions, hold, but there are some notable exceptions," the authors summarize. "These arise from the fact that the compression ratio of a mixture of two compounds is not always directly proportional to concentration."

That much more information regarding the knocking characteristics of hydrocarbons must be obtained before we can control the production and the service performance of motor fuels is universally acknowledged. The variation from a strict rating-to-concentration relationship in mixtures of hydrocarbons, as found by these investigators, points the way toward a solution of the mysteries of performance properties of very complex motor fuels.

A continuation of the research by Boyd and his staff, which it is understood will be continued, probably will do much to clarify understanding of motor fuel properties, and to point to methods for evaluating these properties, as well as processes which will increase the anti-knock effectiveness of commercial fuels.

Within the limits of sound economics, and of the vagaries of political developments, the salvation of the petroleum industry, as well as that of any industry, lies in the hands and the brains of its chemists and its engineers. "Sufficient for the day is the evil thereof" can be applied to no situation with greater truth than to petroleum refining. Chemical and engineering research, and development of processes indicated to be possible by research, are the only methods for maintaining the life of a company, or of the entire industry.

Nor is it sufficient to study today's problem. Such a policy merely postpones the day of reckoning.

Storage Stability Tests Based on Induction Period

AN INDUCTION period of 240 minutes, coupled with a copper dish gum of not over 25 milligrams, assures a storage life to gasoline of a year or more in small containers and a longer time in commercial storage tanks. This is according to conclusions drawn by C. G. Dryer, J. C. Morrell, Gustav Egloff, and C. D. Lowry, Jr. A report of their investigations was presented during the American Chemical Meetings in Cleveland, Sept. 10-14.

Five typical cracked gasolines were used in the study. They were produced on commercial units, shipped to the laboratory immediately after production, and kept under nitrogen until used. It was emphasized that fresh gasolines are essential in research of this sort. Discussion following presentation of the paper brought further emphasis on this point and it was stated that refinery practice was to use the inhibitor as soon after the gasoline was collected as possible with a resultant saving of considerable of this reacting agent. Tests of the induction period were therefore urged on unstored gasolines.

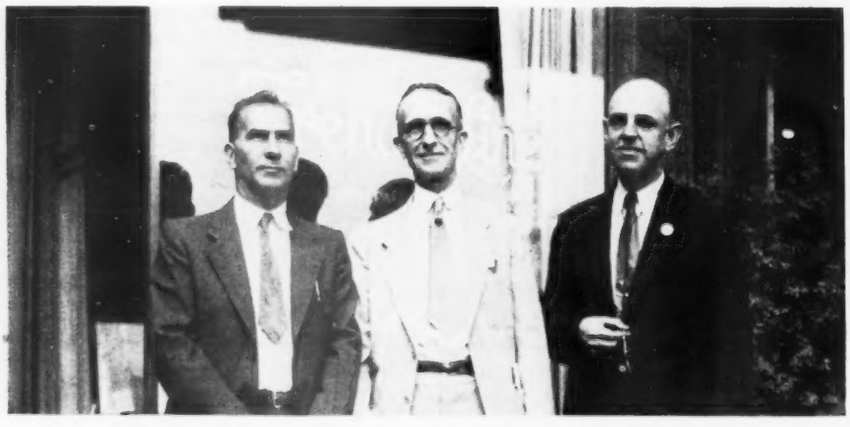
Determination of the peroxide content of the gasolines was made every two weeks during the tests and found to be a good index of the entire deterioration process. The clearest indication of the comparison of inhibitors was shown by a table in which the time required to reach definite peroxide numbers was given and also the time to build up 15 milligram gum. The study showed that in gasoline in storage (oxygen bomb) there is a period of low change corresponding to the induction period in accelerated aging. During this time the peroxide number increases slowly and but little air jet gum forms.

The data adds support to the conclusion that there is a relationship between oxidation potential and inhibiting value, it was said. Hydroquinone was indicated as better than catechol, agreeing with their respective potentials, but pyrogallol was the most effective in all tests in accordance with its lower oxidation potential.

The laboratory ratings of the various inhibitors was challenged in the discussion following the presentation of the paper on the ground that practical field tests had shown catechol to be more satisfactory than hydroquinone. The use of parabenzene . . . phenol was another example of an inhibitor of comparatively low laboratory rating which was shown to be valuable in practical use, although water soluble inhibitors were in general dismissed as a result of laboratory conclusions. The contradiction of laboratory work was justified on the ground that the actual storage of gasoline exposed it to chemical actions not taken into account in the laboratory.

The induction period, while not an infallible measure of storage stability, was shown to have a relation to storage life among samples of the same gasoline.

In the determination of the



Dr. J. R. Bailey, (center), professor of organic chemistry at the University of Texas, whose classic researches in petroleum nitrogen have made him an international figure in the realm of petroleum chemistry. This work is being pushed forward with the aid of a large corps of investigators at the university, which has a huge and increasing fund derived from the royalties of oil production from University lands. With Dr. Bailey are two ex-students prominent in organic chemistry. Dr. E. B. Brown, (left), head of research for the Upjohn Co. of Kalamazoo, Mich. Dr. W. T. Read, (right), is head of the chemistry department, Rutgers University

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induction period it was pointed out that greater regularity was found when a drop in the oxygen absorption of five pounds was allowed before readings were taken rather than using fluctuations of two pounds as had been used by other investigators.

Additional discussion of the paper brought out an agreement that differences in peroxide numbers may be produced in other than glass containers. There was also a considerable discussion of the technique of the copper dish test by the Atlantic Refining method, in which it was noted that too much care could not be taken for cleanliness. Oily steel wool used in scouring was suggested as a source of unaccountable discrepancies. Variation in the rate of evaporation was suggested as responsible for unreproducible results. These difficulties and actual storage conditions as met in the field were held against the use of the copper dish method.

Knocking Traits of 100 Pure Hydrocarbons Determined

FURTHER verification of knocking characteristics and their correlations with molecular structure is revealed in tests of 103 hydrocarbons in the pure state including paraffinic, naphthenic, and aromatic compounds, with critical compression ratios varying over a range of 3:1 to 15:1.

Exceptions arose due to the non-proportionality of compression ratios of mixtures to concentrations. These findings were discussed by Wheeler G. Lovell, John M. Campbell and T. A. Boyd of the General Motors Corp., Detroit, at the Cleveland meeting of the American Chemical Society.

It was noted that previous work has been chiefly with hydrocarbons in solution with gasoline and that comparatively little information on the pure hydrocarbons has been available.

The critical compression ratio was defined as that at which knock just becomes audible in a quiet room under conditions of full load, engine speed 600 r.p.m., jacket water boiling, mixture ratio and spark timing for maximum power. The procedure was said to be somewhat similar to that employed by Ricardo for determining "highest useful compression ratio" although his speed was 1600 r.p.m. Engine conditions corresponded approximately to those used in the C. F. R. Research method of knock rating.

Results showed that rate of change of knock intensity with changes in compression ratios did not appear to vary greatly but were comparable in most cases, one with another. Among the paraffin compounds an increasing tendency to knock with increasing length of the straight carbon chain was clearly shown, methane having the least tendency to knock. Increasing the length of the carbon chain at first abruptly increased the knocking tendency but the abruptness became less pronounced. The powerful influence of more compact space arrangement of the carbon atoms was especially noted for the effect of decreased knocking tendency.

The difference between the unsaturated and saturated alephatic hydrocarbons, it was stated, was the usual higher compression ratio of the olefin. Exceptions were thylene, acetylene, and propylene.

Five interesting relationships were given for the naphthenes and aromatics between molecular structures and knocking tendencies. The first was the distinctly greater knocking tendencies of the saturated cyclic hydrocarbons and the second, the comparable knocking tendencies of cyclohexane and gasoline.

Two and three double bonds within the ring were said to exert a strong antiknock effect, while a single double bond produced comparatively little effect. Increasing the length of the side chain increased the tendency to knock among both the aromatics and naphthenes but branching of the side chain produced a decrease in knocking tendency.

The behavior of two-component mixtures showed a wide difference in knocking tendency, due to the lack of proportionality previously mentioned. A lack of any uniform relation of "aniline equivalents" for hydrocarbons in the pure state and in dilute solutions with gasoline were also pointed out.

Plumbite Sweetening Proved Harmful To Gasoline

THE effect of alkyldisulfides and sulfur on the color stability of gasolines has been found to be harmful according to results of tests conducted by Gustav Egloff, J. C. Morrell, W. L. Benedict, and Charles Wirth III. Data on the conditions of tests and results were presented by J. C. Morrell before the petroleum section of the American Chemical Society at its Cleveland meeting, Sept. 10-14.

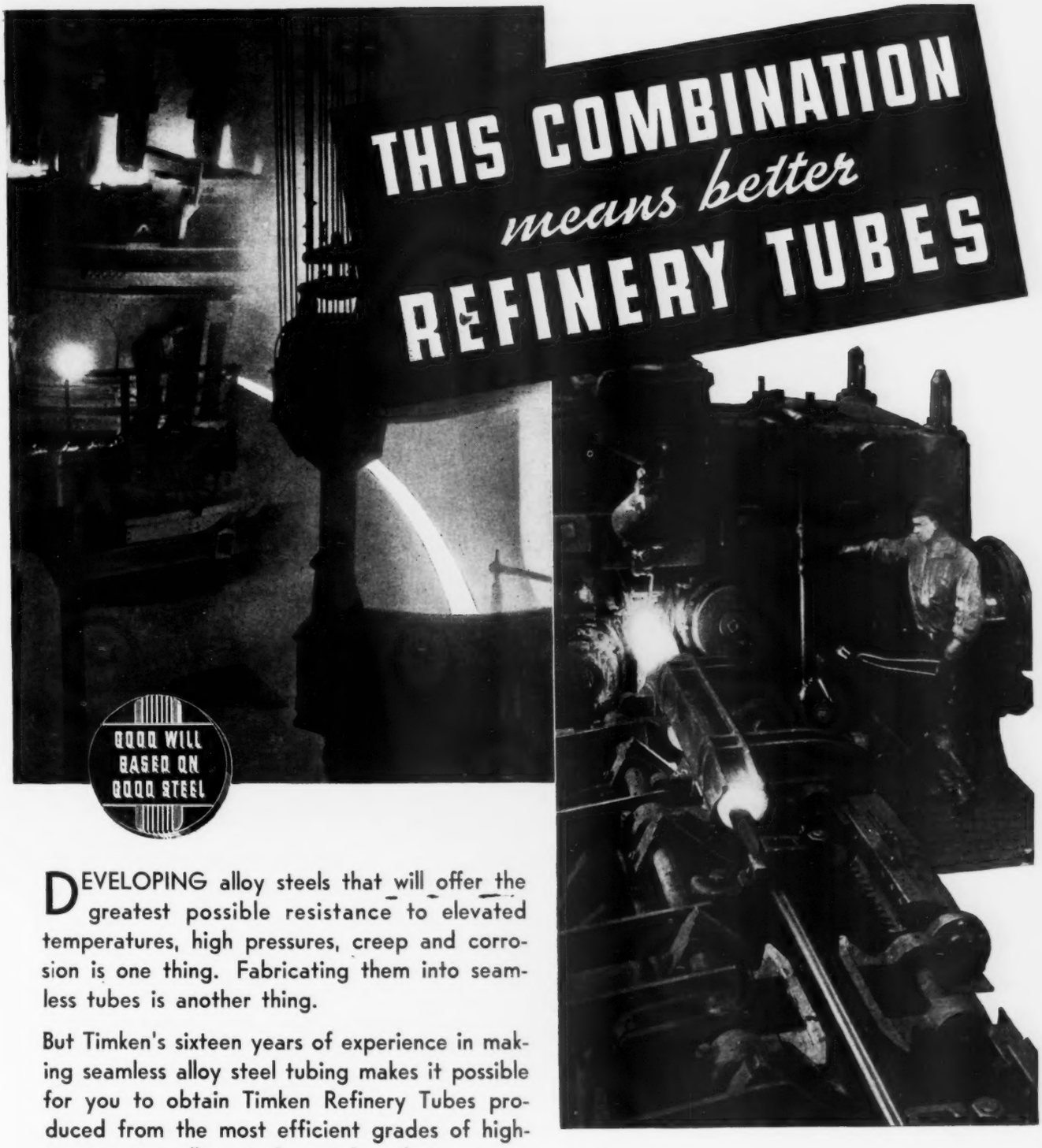
The results show that each of the materials used causes color deterioration and haze formation. The disulfides formed and the excess sulfur present upon sweetening with plumbite definitely contribute to this effect, it was said. The combined effect of sulfur and disulfides is greater than that of either of these separately.

A number of tables were shown to illustrate the effect of 15 minutes exposure to carbon arc lamp on sulfur-free cleaner's naphtha, sour Cutbank (Montana) straight-run gasoline, straight-run gasoline from which mercaptans had been removed, and Healdton straight-run and cracked gasolines.

Small Scale Fractionating Equipment Is Described

TWO simple but efficient fractionating columns for small scale operations were described by M. R. Fenske before the Petroleum Division of the American Chemical Society at Cleveland, Sept. 10-14. The development was the combined work of C. O. Tongberg, D. Quiggle, and M. R. Fenske as carried on at State College, Pa. One is an all-glass apparatus capable of distilling a 50 to 100 cc. charge and the other is a nickel column with nickel packing to which 11 liters can be charged.

In both columns it is possible to know the rate of distillation and the reflux at any time. Tests



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were conducted with binary mixtures of carbontetrachloride and benzene, methylcyclohexane and toluene, n-heptane and methylcyclohexane, n-heptane and toluene, and benzene and toluene, for which data was given to show the efficiency of the apparatus.

Packing materials tested included one turnglass helices, which were found to be the most satisfactory in the glass column. In the larger column wire staples 0.5 mm. in diameter, and four by six mm. were used, so that there was about 72 per cent free air space. Nickel wire helices of No. 26 wire four mm. in diameter were also used.

The liquid holdup in the columns was said to be a small fraction of that of bubble cap columns. Other conclusions were that, in addition to a high efficiency, a fast rate of fractionation was obtained. The height equivalent of a theoretical plate when determined under total reflux was said to vary but slightly with the various mixtures of hydrocarbons tested.

Anticipation of the performance of larger packed columns was suggested as an advantage of the apparatus. The performance of a column during fractionation should be determined by some independent method of analysis of the distillate, such as refractive index or density measurements, instead of judging by the flatness of the boiling point curve as determined in the column.

Evaluation of Boiling Points By High Vacuum Improved

THE development of a series of physical and chemical tests whereby the period of usefulness of an absorption oil may be determined rapidly and accurately was the object of investigations carried out by W. E. Kuhn and J. F. Collins, Jr. of The Texas Co. This was reported at the Cleveland meeting of the American Chemical Society, Sept. 10-14. The superiority of tests for gum, endpoint by distillation, and demulsibility were pointed out. The first and last should be a part of the specifications for a new oil to be used in an absorption system in order to be assured of the most profitable operation, it was claimed.

The tests were selected from a series of 12, including gravity, distillation, laboratory evaluations, demulsibility, viscosity, tar content, gum content, carbon residue, sulfur, corrosion, oxidation, and B.S. and W. Those yielding accurate and consistent results were gravity, distillation, demulsibility, gum content and carbon residue.

The entire investigation was made on commercial equipment employing a kerosine distillate as the absorbing medium. Average tests on this stock were as follows:

Gravity °API	43
Initial boiling point °F.	345
Boiling range °F.	165
% over at 400°F.	25
% over below 475°F.	95
Gum content by wt. (Gill)	5%

The gases employed were divided into two classes, namely plant gases and pressure still gases.

Five surveys were made covering a period of two years' operation under normal conditions. The most outstanding illustration of the deterioration of the absorbing medium was the graphical chart of gum content against time in days. The test from which this was plotted was said to be the most reliable and accurate means of determining the "age" of the absorption stock.

In concluding it was noted that it was left to the individual operator to establish his own limits and control tests for the length of service for most efficient operation, the limits being dependent upon the type of system employed in each case.

Efficient Tests for Absorption Oil Deterioration Selected

A NEW apparatus and conversion chart for routine high vacuum distillation of oils was described by K. M. Watson and Charles Wirth, III., of Universal Oil Products during the meetings of the petroleum division of the American Chemical Society in Cleveland, Sept. 10-14. The former is a modified Davis and Hornberg apparatus (described in NATIONAL PETROLEUM NEWS Sept. 20, 1933) and the chart is derived from Coats and Brown's Vapor-Pressure Chart for Hydrocarbons (described in Circular Series No. 2, Dec. 1928, University of Michigan).

The apparatus incorporates a means of eliminating condensation in the McLeod gauge which was found to be the source of large errors in the determination of boiling points of heavy oils when using the Davis and Hornberg apparatus. A trap cooled with liquid air or solid carbon dioxide and placed in the line connecting the flask to the McLeod gauge reduces this error to negligible proportions. Minor changes in the apparatus were the placing of downward points in the distilling flask by heating red hot spots in the upper portion of the flask and pushing inward with a file point; fully enclosing the thermometer in the neck of the flask; and using ground glass joints on most of the connections instead of rubber.

The two distillation curves plotted were pointed out to be in good agreement in the lower portion of the vacuum distillation curve and that portion of the atmospheric pressure curve below cracking temperatures. The close agreement was said to be typical of the results on many different types of stocks and indicates that the method and conversion chart have a satisfactory degree of accuracy in this range.

Watson and Wirth improved the applicability of this chart by transforming it to nomographic form so that by laying a straight-edge across three special scales of temperature, pressure, and normal boiling-point, the latter is determined. Although slight errors are introduced for extremely high or low boiling materials, these errors were said to be probably not greater than the error of the extrapolation to high temperatures in the original chart.

DALLAS—The Dallas Petroleum Club is being organized to handle certain work in connection with the annual meeting of the American Petroleum Institute, Nov. 12-15.

MICHIGAN

as a

Refining District

By Arch L. Foster, N. P. N. Staff Writer

Discussion of its Present and Potential Crude Production; Nature of the Crude and Refined Products Derived There from and Economic Factors which will Affect the Locating of Plants There.

Location of operating refineries, proposed refineries, major producing areas, and pipelines, in Michigan

MICHIGAN feels the need of a refining industry greater than its present capacity, to take care of its increasing crude production, or its increasing potential production. Michigan oil men are going after this capacity, and will build it themselves if no better solution of the problem offers, they say.

With an allowable production of 29,500 barrels per day, and a refining capacity of approximately 17,000 barrels, prominent oil men say that additional capacity of 10,000 barrels per day should be built to solve Michigan's problems, which are said to be similar to no others anywhere in the oil industry in this country.

Some well informed men raise this additional needed capacity to 15,000 or 20,000 barrels per day, in view of the prospects for materially increasing Michigan's producing potential.

The potential for all Michigan fields is estimated by those best acquainted with the situation at 130,000 barrels per day, or a round hundred thousand barrels above its present allowable.

At present, it is pointed out, Michigan crude must go outside to find a suitable market and refining capacity to handle it. Some oil men believe that, under existing conditions, Michigan crude can be refined more profitably at home, and with less disturbance to the remainder of the industry, than to send it "abroad" to refining centers. At present Pure, Sun, Standard Oil Co. of Ohio and White Star, are using varying amounts of Mt. Pleasant crude.

It is true that Michigan crude offers some peculiarities which make its refining a distinct and separate problem. It does not mix well, in many cases, with other crudes in the same refining system and when refined in conjunction with crudes differing widely in properties, refining technical difficulties are greatly aggravated.

From a manufacturing point of view at least, it seems reasonable to assert that Michigan crude may best be refined by itself when its own peculiar problems may be solved in the most efficient manner.

It offers possibilities for the production of various products—naphthas and solvents, lubricants, and road materials. Its hammer gasoline, clean chemically and non-corrosive, but low in anti-detonation properties, may be made into very satisfactory competitive motor fuel by suitable re-forming and cracking equipment. With such equipment Michigan refineries, unfortunately, are in many instances not equipped. This straight-run gasoline varies in anti-knock rating from 15 octane number or less to 30 or slightly higher.

Michigan crude has suffered greatly from the reputation gained by the crude from the Muskegon field, which was the first area to be developed. This early production was difficult to refine, and its gasoline showed the lowest anti-knock rating of any known crude.

Midland-Mt. Pleasant crude, however, while also producing gasoline of relatively very low octane number, does not show the same refining difficulties in as great degree. Comparatively refractory in cracking, it yet offers no serious difficulties, say technologists best acquainted with its nature.

Michigan crude appears to be a hybrid, unlike any other crude produced in America. Its light

fractions are the most paraffinic known, more than even Pennsylvania crude. Its middle fractions are more or less similar in properties to corresponding Pennsylvania and Mid-Continent fractions. Yet the heavy fractions, the lubricating oil portion, in properties falls into the corresponding class of a middle grade Mid-Continent crude. A very satisfactory lubricating oil may be made from it, informed refiners say, and it should prove especially susceptible to treatment with selective solvents.

It appears highly possible, therefore, that "home" refineries are one solution of the Michigan problem. Transportation of crude will add little to the cost of raw material at the refinery. Within a certain radius, freight rates on refined products, whether assumed as railroad rates or the cost of hauling by truck train, give the Michigan refiner a differential margin which will enable him to sell his output at a profit in nearby consuming territory.

TWO errors must be avoided, however, if the development of a Michigan refining industry is to solve the producer's problems, and prove profitable for the refiner and the state. Construction of topping and skimming plants of the temporary type should be undertaken only if plans are in mind, and possibilities are good, for the expansion of refining facilities to include cracking equipment, and in some cases no doubt, other facilities for the production of other commodities and for improvement of the quality of motor and other fuels made.

It is difficult to see how the existing problems are to be solved permanently by a scattered group of topping plants. The gasoline from this operation on Michigan crude, chemically clean though it may be or is made by simple treating methods, cannot be sold at any but the lowest price in the market.

In a laudable, and apparently fairly successful effort to stabilize the market in Michigan third grade gasoline and to avoid the opprobrium of being classed as "bootleggers," marketers of Michigan straight-run gasoline have generally agreed to retail their product at one cent below the current price for other third grade motor fuels sold in Michigan. While this action is useful in stabilizing the local markets, it does penalize the Michigan refiner and marketer for the poor anti-knock quality of his product. It does nothing to improve that quality, or to enable the refiner to produce a better product to sell at a better price.

Every trend of the petroleum and automotive industry today is toward higher quality in motor fuel as regards detonation, volatility and so on. No sound basis for pretending that this movement will reverse itself, or will be directed into radically different channels can be seen by the qualified observer. Every indication is that it will continue in the same direction, at least within reasonable limits not yet reached.

It should also be pointed out that, in the effort to provide a suitable and sufficient refining capacity, Michigan may fall into the error committed by the country as a whole, and sadly overbuild. Such a move, even with the most up-to-date equipment to refine products which can compete on quality in any market, will inevitably result in the Michigan refiner being forced outside the natural economic boundary, wherein he has the advantage of lower distribution costs, to market the surplus. For an industry now suffering from the results of just such overproduction, the effect of further overbuilding refinery capacity is not difficult to foresee.

At least six new refineries of small capacity have been seriously talked of during the last few months, two of which are already building or operating. Mid-West Refining Co. recently placed in operation a modern topping plant at Alma, just south of Mt. Pleasant. A small plant is under construction at Elsie, nearby. The Goodman interests will soon start construction at Detroit, of a 2000-barrel topping unit. McClanahan Oil Co. is planning to build a unit to refine part or all of that company's production in Michigan. Several others are more or less seriously projected. Polish capital is reported to be looking for an attractive proposition in Michigan, a rumor not yet verified.

Lack of capital is probably the greatest deterrent to a rapid building program. Business uncertainty in general, the question of proration and allowables on crude and refinery production are also hindering oil men in reaching decisions.

SOME 90 or 95 wells are drilling now in the different Michigan fields. Several new wells have recently been brought in, none large producers but all the steady type characteristic of many wells of these fields. Informed field men estimate that 2,500,000 acres of proved or prospective oil lands are leased, a large proportion of which is held by major companies. Sun, Pure, Shell, Ohio Producing and Refining, and Daley Oil and Gas are reported to hold 100,000 to 300,000 acres each.

Much of this territory has not been drilled, or has been proved by only one or a few wells. Near LaPeer, a wildcat area, three wells have been drilled to small production in the Berea bay, producing probably 65 barrels altogether of an oil of decidedly higher quality than that obtained from either the Traverse or the Dundee sands. The latter two have been the major producing horizons so far.

Besides the older area near Muskegon, which has fallen off in production, three fields are located near Mt. Pleasant. Porter field is prorated at 20,500 barrels per day, the largest production in the state at present. The Chippewa and Greendale areas east of Mt. Pleasant, are prorated at 4100 barrels. Leaton, eight miles from Mt. Pleasant, in the Dundee formation and a very steady producer, with Ogemaw, in both the Traverse and Dundee sands, account for another 1000 barrels. Vernon, north of Mt. Pleasant, makes about 2400 barrels per day, and is not prorated because of water. The remainder of the proration is divided between several small fields.

On the western side of the state, the Hart and Bell Shale fields have 30 or more wells drilling, started recently. At Edmore, near Mt. Pleasant, are found probably the best immediate prospects for a new field of some consequence, four pro-

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ducing wells having been sunk recently, with 18 now drilling. A structure lying between the towns of Howard and Greenville, owned and leased almost entirely by major companies, has not been drilled to any extent. Apparently these companies are avoiding bringing in this area until its production may be expected to prove more profitable.

Two pipelines are now available to handle crude from Michigan fields. That of the Pure Oil Co. takes some 80 per cent of the present production, delivering it to Toledo and Midland. The Simrall line, owned by the Roosevelt interests, with a refinery at Mt. Pleasant, handles the remainder of the crude.

The Pure Oil Co. pipeline, six-inch, gathers crude throughout the entire Mt. Pleasant area, and extends about 40 miles to Bay City. From here it sends crude by tanker to the plants at Detroit and Toledo, in summer. During the period when navigation is closed, Nov. 15 to March 15, crude is shipped entirely by tank car. En route to Bay City branch lines supply refineries with crude.

KENT REFINING CO., at Grand Rapids, Naphth-Sol and Old Dutch, at Muskegon, and some others are supplied by rail with crude from the tank farm of the Pure in Greendale township, western terminal of the main pipeline. Sun, Pure, Standard of Ohio at Toledo use a few thousand barrels of Mt. Pleasant-Midland crude, it is understood. One or two very small plants in Canada are also supplied with crude by the Pure facilities.

The Simrall line starts from Porter township and serves a part of the Midland area, including the Roosevelt plant at Mt. Pleasant, with which company it is affiliated.

Refineries such as the new Mid-West at Alma, own their own pipeline and gathering system, piping the crude into their own plant storage. It appears probable that this plan will be followed by those refineries built in the vicinity of producing fields.

Michigan now has seven refineries operating largely or entirely on local crude. The rated capacity of the seven plants is about 17,000 barrels per day, and the White Star plant is rated at 10,500 barrels. In addition the Pure Oil Co.'s Toledo refinery is rated nominally at 7500 barrels, and part of its charging stock is Michigan crude. The Sun Oil Co. also has a 14,000 barrel plant at Toledo, and the Gulf Refining Co. a 13,000 barrel plant. Standard Oil Co. of Ohio has a 20,000 barrel Toledo plant.

Assuming that Michigan oil men should decide that a home refining industry should be built to refine local crude, it will require at least 10,000 or 12,000 barrels of additional capacity to care for the present production allowable. If present indications are a true picture, the potential of the state is likely to increase materially within the near future. This refining capacity must be built of course, in the face of the present over-capacity of the country as a whole, most of which, however, is at a distance from the state. No more capacity should be built, unless sound economic reason exists for it; that is, unless refined products may reach the consumer from the new plants at an appreciably lower cost than from existing refineries.

Any refinery constructed in the interior or on the coast of the south peninsula of Michigan will find an economic boundary between its location and the refining centers of Toledo-Detroit and the East Chicago area, beyond which it will not be profitable to ship gasoline or fuel oils. Local oil men state that, for the Muskegon-Grand Rapids-Mt. Pleasant area, it is not profitable to ship beyond, for instance, the Kalamazoo region. Shipments into the upper peninsula and into Canada will be correspondingly regulated by the cost of transportation.

An accompanying table shows the freight rates on crude and refined products from Mt. Pleasant to various points in Michigan and surrounding territory. A full schedule of special rates for the different commodities has not yet been worked out by the railroads, since movement has not been general and widespread enough to warrant their issuance. From these typical rates, and from a study of rates from other refining centers, space for which is not available here, it may be seen that over a certain territory, the central Michigan refiner enjoys a rate advantage which will make operation profitable, provided that area can consume the grade of gasoline he refines. If his production is greater than the demand, he will be forced into other areas to sell his products, including furnace and fuel oils, at an economic disadvantage because of transportation rates being against him.

THE Bureau of Public Roads figures for taxed gasoline in 1933 show that nearly 15.5 million barrels were consumed in Michigan. If the average percentage of third grade to total motor fuel for the U. S. as published in NATIONAL PETROLEUM NEWS—slightly more than 20 per cent—is taken as representative of this state, then Michigan used slightly more than 3,000,000 barrels of third grade gasoline in 1933. From the normal yield of straight-run gasoline, this would require 10 or 12 million barrels of crude per year. With the present month's allowable for Michigan, its yearly output of crude will be about 11 million barrels, enough to supply this amount of third grade motor fuel for all Michigan.

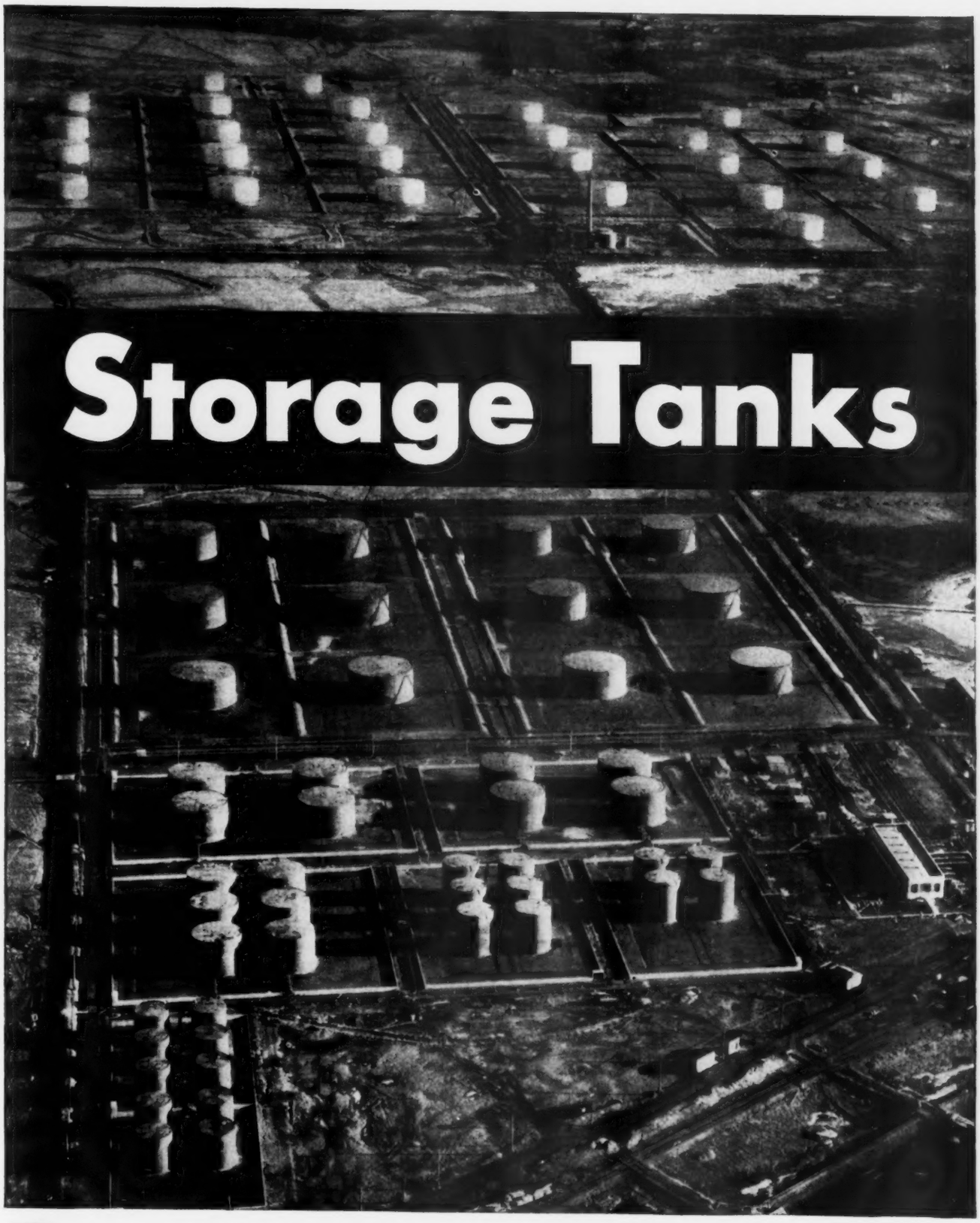
(*Continued on page* 68)

Shipping Rates from Mount Pleasant

Railroad rates on crude oil and refined products from Mt. Pleasant to Michigan and other nearby points.

City	Crude	Gasoline	Kerosine	Gas or Furnace Oil	Fuel Oil
	Cents Per 100 Pounds				
Detroit	11	11	11	15	*
Grand Rapids	8	14	14	14	*
Toledo	10	20	....	....	*
Chicago	12.5	24	....	....	*
Cleveland	22	24	....	....	*
Duluth	....	....	....	....	*
Saginaw	10	10	10	10	*

*Same as gasoline.



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Quality Tractor Fuel At 2.6-Cent Premium Sold by Iowa Jobber

By E. L. Barringer
N. P. N. Staff Writer

Country jobbers serving the rural trade have their own problems to solve. The following article tells how such a jobber met low price tractor fuel competition by selling a superior product at a higher price.

WHEN marketing problems are under consideration the industry usually thinks in terms of city service station and tank wagon difficulties, yet to thousands of jobbers in rural communities the problems of managing sales to the farm trade are equally perplexing.

Problems of rural oil merchandising are peculiar in themselves and each jobber has to arrive at his own answer. Competition for the farmer's petroleum dollar is exceedingly keen, from other oil companies, from mail order houses, and from outside salesmen soliciting seasonally. The farmer, also, buys on a competitive basis, since oil costs have to be included in the final price of raising foodstuffs. And while the city motorist or truck operator cannot substitute for automobile power, the farmer can put his tractor in storage and use horse power.

Some country jobbers have solved their marketing problems by withdrawing from rural territory, and concentrating on company stations and dealer outlets in town. Other jobbers, such as Vern Rowley, White Way Oil Co., with headquarters in Perry, Iowa, continue to operate trucks on country routes as well as maintain small town service stations.

Since tractor fuel has replaced gasoline as the principal fuel sold to farmers, on account of a lower retail price, Mr. Rowley has had to solve the problem of merchandising such fuel. One solution was to sell at a price, pocketing a small margin; the other was to handle a better grade of fuel, being satisfied with a smaller volume but a larger margin.

In Iowa two types of tractor fuels are marketed. One grade has low specifications, so low that the fuel could not be used for automobile engines, but is tax free. The other grade has higher specifications, could be blended for motor fuel, and is subject to the state gasoline tax with a refund for non-highway use.

By figuring costs and margins Mr. Rowley decided on the policy of marketing the higher specification tractor fuel. The actual figures will show how he arrived at the decision:

The normal tank wagon price on low specification tractor fuel is 7.6 cents, but Perry is in one of the state's persistent low price areas and the price in late summer was 6 cents. Out of this 6 cents comes about 2.5 cents refinery cost, 2 cents freight, and 1 cent truck driver's commission, leaving a margin of about 0.5 cent for bulk plant operations and profits, if any.

Mr. Rowley sells the higher specification fuel at 8.6 cents, without the tax. Out of this 8.6 cents comes about 4 cents refinery cost, 2 cents freight, and 1 cent driver's commission, leaving a margin of 1.6 cents. Many gallons must be handled at a 0.5-cent margin to compensate for a 1.6-cent margin, Mr. Rowley believes.

To sell tractor fuel at 8.6 cents against a 6-cent price requires salesmanship. Talking points for the higher specification fuel are no priming to start the tractor, practically no dilution, and better performance. In spite of agricultural difficulties there still are some farmers near Perry who balance quality and price against mere price and buy the better fuel.

Gasoline sales on rural routes generally mean third grade motor fuel. About 5 per cent of Mr. Rowley's farmer customers still store gasoline on the farm. Most farmers buy only tractor fuel off the tank wagon and gasoline at the service station in town, as losses on motor fuel stored on the farm, through evaporation and thefts, have been high.

When the tank wagon price on third grade gasoline at Perry dropped to the 12-cent level Mr. Rowley solved his problem by putting the issue up to the truck drivers—the lower price with less commission, or a higher price with a 1.5 cent commission and more sales resistance. The company's price is 13.5 cents.

Mr. Rowley along with every rural jobber selling the farm trade faces the credit problem and what to do about it on fall business. The complicating factor this season is what becomes of the hog-corn money dispensed by the federal government. Will the farmer spend it now for current oil requirements? Will the farmer hold the money and stretch further his credit?

For every hog the farmer does not raise he receives $5, in three installments. The first payment, $2, has been paid, and a second payment of $1 is anticipated sometime this fall, probably in November. Final payment of $2 is expected in February.

To enter the competition for fall oil requirements, Mr. Rowley believes means writing the sales in the accounts receivable ledger. Instead of running the risk of selling on credit, with the possibility that the anticipated $1 November check might be used to square accounts, he has adopted the policy of keeping out of the fall buying market, then driving for business in the spring so that the $1 November and $2 February checks will be converted into cash petroleum product sales.

Seen by N.P.N.

MERCHANDISING AT SERVICE STATIONS

From the Road

Formula for Checking Specialty Sales

As a means of stimulating sales of specialty petroleum products, such as polishes, household lubricants and so on, at its service stations, Humble Oil & Refining Co. has evolved a specialty ratio. This is defined as the dollar sales value of specialties per thousand gallons of gasoline sold. It is a yardstick by which the success in selling this class of merchandise can be correctly evaluated.

Its use enables the company to compare, in true perspective, the business of high and low gallonage stations, to compare one group of stations with another, or to evaluate the specialty sales in one district with those in another. The use of the specialty ratio is described by the company as follows:

"Suppose that we have a station which is doing 5000 gallons of gasoline a month and has a specialty ratio of 5," it was said. "This means that the sales value of specialties handled through the station will be $5 per 1000 gallons of gasoline, or a total of $25 for the station.

"Similarly, let us suppose that we have a station which is doing 15,000 gallons of gasoline a month and is selling $60 worth of specialties. The specialty ratio in this case, will be 60 divided by 15, or 4."

The company regards an overall average of less than $2 worth of specialties per 1000 gallons as very small. It points out that the average steady customer at its stations buys about 70 gallons of gasoline a month. It takes 14 such customers to buy 1000 gallons of gasoline. A specialty ratio of 2 means that only about 14 cents worth of specialties per month have been sold per customer.

The Humble company has figured out its overall specialty ratio by months, for the first half of 1934, for all its business as follows, the relatively high ratio at the start of the year being due to sales of anti-freeze materials: January, 1.99; February, 1.83; March, 1.57; First Quarter, 1.80; April, 1.82; May, 1.88; June, 1.94; Second Quarter, 1.89.

—NPN—

You may have seen this young man in a different uniform. Its Charley Gehringer, second baseman for the Detroit Tigers, who has opened a gasoline station in Detroit. (International News Photo)

—NPN—

At the Sterling Brothers station, in Titusville, Pa., a novel test is used to demonstrate to customers the superiority of the lubricants handled there.

A sample of lubricant is taken from some part of the customer's car—transmission, differential, steering gear, or crankcase—and is placed on the face of a trench mirror. Then the customer is shown how it rubs off with the pressure of one finger. Then the attendant takes some of his company's corresponding lubricant and repeats the procedure, showing where his lubricant leaves a smooth even film on the mirror after rubbing.

Found—Station Salesman Who Talks About Oil

Oil may be oil to most station men but to Gilbert Nead, at the White Way Oil Co. station, Perry, Ia., an oil sale is an opportunity to praise his merchandise, to keep the customer sold.

This customer recently purchased a tank full of gasoline, and a quart of oil after Mr. Nead had listed his oil brands.

"The specifications on this oil are quite high," commented Mr. Nead, while pouring the oil in the engine fill pipe. "In fact they are higher than for some nationally advertised oils. It is made by the Bartles-Shepard Oil Co., at Waterloo. It is not known widely outside the state, but there is a big demand for it in Iowa.

"A truck driver across the street used this oil in his truck for 300,000 miles and only replaced the rings once."

By that time the oil sale was completed, and Mr. Nead then rechecked the gauge stick to see that the customer had sufficient oil. When the customer asked why such a sales talk had been given, the first one he ever listened to, and to a tourist who was not a regular customer, Mr. Nead replied:

"Well, I don't know, except that Vern Rowley who runs this company treats us right, is a good fellow, and we just like to talk about our merchandise and our service."

—NPN—

The General Oil Sales Corp., of Pittsburgh, recommend that their station men approach a customer with the question; "How many gallons will your tank hold today, sir?" This approach, while a new way of asking an old question, has the power of suggestion wrapped up in it. It makes the customer

MERCHANDISING AT SERVICE STATIONS

(As Seen by N. P. N. From the Road)

think in terms of a full tank. According to Perry Willoughby, of that company service station men who use this solicitation have increased their gallonage from 5 to 16 per cent.

—NPN—

A Homemade Display To Advertise Tires

Kerth's one-stop station at Clayton, Mo., devised a wheel alignment display out of an abandoned automatic hoist. The runways of the lift were mounted on a heavy box and raised about three feet off the ground. These represent the front and rear axles of an automobile. On the end of each "axle" is hung a tire which shows excessive wear due to faulty alignment. The worn spots are accentuated with aluminum paint. The tires are hung in a pigeon-toed position and the display takes on the appearance of being a huge chassis with front wheels badly out of line.

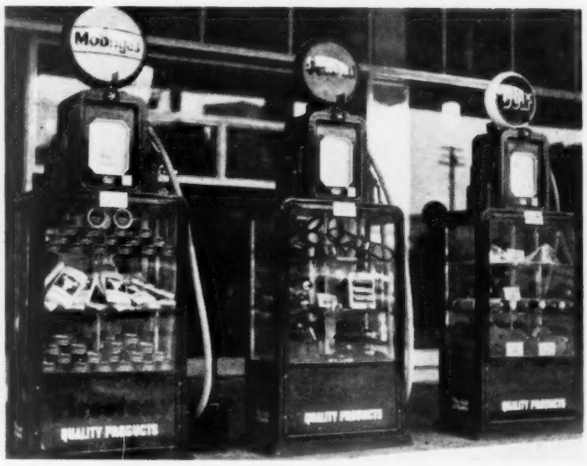
On top of the display, which is placed close to the wheel alignment testing apparatus, is a sign reading: "Is Your Car Pigeon-Toed."

—NPN—

Least Likely Prospects Sometimes Do Buy

A dilapidated '24 Model T Ford came to a stop on the service station driveway, spouting steam and hot water. The attendant, who had been in the act of reviewing his service station manual, dog-trotted to the radiator and proceeded to curb the inferno. This finished, and with his instruction so recently brought to mind, he suggested to the driver his front tires could well bear replacing. It was only a half-hearted suggestion, as the car was hardly worth the price of the tires and it seemed doubtful if the driver had their price.

"Well, son," said the driver, "I was just a thinkin' about that myself. What have you got?"



Display Cases, Computing Pump in Single Units

With a battery of 11 huge combination display case, computing gasoline pumps the Firestone Tire Co. literally puts an accessory under the nose of every gasoline customer at the company's new super-station recently opened in Cleveland.

The pumps are set in two banks, one containing six pumps and the other five. Three cars to a side of each island can be cared for at one time.

The pump display case proper is about shoulder high and 4 feet wide by 2¾ feet deep. Above the case rises the computing meter face and the identifying globe surmounting the entire pump. Each display case is fitted with three adjustable shelves which are heaped neatly with polishing rags, fan belts, sponges, car heaters, brushes, batteries, wheel-mounted tires (two tires to one case, no shelves), and many other items.

Heavy plate glass surrounds the case which is entered from either end, through a swinging side that locks securely making it unnecessary to remove the articles at night. The pumps are all of average pump height and the accessories are so placed as to mostly come into the level line of a customer's vision.

Gasoline reaches the hose through a chrome covered pipe which rises up through the center of the display cabinet. Being but an inch in diameter the feed pipe does not detract from the appearance of the display.

The attendant, still not sure this wasn't some gag, told his tire story. The result was the sale of two tires and tubes. It seemed the customer was on his way to a chain store to look at tires, when his engine developed complications. He had tires on his mind and the money in his pocket. The $12 would have driven out of the station except for the attendant's suggestions.

—NPN—

The low oil consumption rate of most of the 1934 cars makes it easy for the station salesman to let the customer leave the station with a purchase of gasoline only. However, the fact the cars will operate without the addition of oil to the crankcase makes it easier to sell a complete change than with the older types where a quart was bought every now and then to keep up the crankcase level.

Join the Treasure Hunt

In its Sept. 26 issue, NATIONAL PETROLEUM NEWS will offer the first of special articles on extra business which can be secured at oil company stations in connection with conditioning cars for winter service.

For men at stations, these articles will carry practical suggestions on how to increase sales of oil and grease, services of various kinds, and accessories, when cars are being prepared for driving in the cold months.

Modern retail store of Doyle Gasoline & Oil Co., Inc., Rochester, N. Y., adequate window space for the display of tires and other accessory items

Sales of Gasoline and Auto Accessories Increase at Modernized Stations

LOCAL and major oil companies have obtained remarkable results in increased gallonage and increased sales of accessories through rebuilding and modernizing stations.

This was to be told by J. C. Chatfield, NATIONAL PETROLEUM NEWS staff writer, to writers of the Gasoline Pump Manufacturers Association at their annual meeting at the Drake hotel, Chicago, Sept. 20.

What has been done so far has yielded such convincing results that the trend toward modernization of stations should be accelerated as business conditions improve, he pointed out. A number of instances were cited in the address, a part of which is republished herewith:

Craig Oil Co. at Erie, Pa., is an excellent example of how business may be built up with modern facilities. The owner of this company had been in the oil business in Erie for many years. In the boom days he sold out to a major company.

Fifteen months ago he went back into business. The first station he built was a highly modern porcelain enamel and plate glass station well lighted and equipped with the most modern pumps, grease guns, lifts and with an island display case.

Within three months this station was moving 1000 gallons of gasoline daily. Its island showcase was selling $100 worth of accessory merchandise each month and 300 cars were being lubricated each month in the lubritorium.

The station was built in a highly competitive neighborhood. Four other stations are located within one block of it. The other afternoon a check was made by NATIONAL PETROLEUM NEWS of the number of cars visiting this station as compared with the other four. The Craig station in 30 minutes serviced 17 cars. One other station serviced 12, another 9, another 8 and another four. All of the stations handle nationally advertised brands.

Mr. Craig formerly had a station on the main highway which moved 1000 gallons of gasoline daily at the time it was sold. The new owners have done nothing to keep it up to date. As a result gallonage has dropped to 300 per day.

Within the past year Mr Craig went back to this highway and built a new, modern station near the site of the old station which had been allowed to run down. This new station now does a business of 27,000 gallons per month. Most of this is tourist transient business. The buyers are not familiar with Mr. Craig's name or of the service standards he built up during the years he was in business in Erie previously. He sells an advertised brand, but so do his adjacent competitors. The answer is that the buyer is attracted to the modern, accessible, inviting station. The in-

stallation breeds confidence more than the signs indicating the brand of goods offered.

Within the past year Mr. Craig has built five new stations in Erie. These five now average 100,000 gallons of gasoline per month. This represents about 10 per cent of the total gallonage in the city. This business is not new business. It is business which other companies have lost. They lost it because they were not keeping up with the parade.

All of this cannot be attributed to the modern facilities which Mr. Craig has installed. He is a "go-getter" who believes in advertising. He has two weekly radio programs and uses the newspapers. He advertises his service, himself and his stations primarily, and his products secondarily.

Three years ago a major company took over 42 stations in an eastern city from an independent company. The equipment was all old style. Hand pumps, no greasing or oil changing facilities, run-down buildings and shacks, and no landscaping of any kind.

Then for two years this major company worked on these stations, tearing out all the old equipment and putting in the newest type electric metered pumps, grease pits, shrubbery, painting, and in many cases rebuilding the stations completely.

A year ago when construction work was still going on in some of the stations the company began to see a marked improvement in sales. For the past eight months, the company has shown a consistent gain each month.

In one station which required a full revamping job including repainting, shrubbery, grease pits, electric pumps (had hand pumps before), flood lights, and a curb cut, the volume of business increased 57 per cent in the first six months compared to the six months before the new equipment was installed.

At Cleveland the Texas Distributing Co. is an aggressive local oil company selling products of The Texas Co. through stations which have been largely built or remodeled in recent years.

At one station there were two pump islands, both under a canopy connected with the station building. There was considerable congestion at this station so the company decided to eliminate one island entirely, to cut back the canopy and give more space for maneuvering cars. Old air-pressure pumps were removed and replaced with electric meter pumps. Business increased 30 per cent.

Another station of this company was located at an acute angle intersection of two roads. The building was set far back and it and the equipment was old. Greasing was over a pit. A new building was erected closer to the intersection, lifts were installed, new gasoline pumps, new grease guns and tires were added, drives widened and shrubbery planted. Floodlights were put in to increase night visibility. Sales doubled.

ANOTHER station more than doubled its business as a result of a modernization program. At this station visible pumps were torn out and replaced with electric meter pumps. A grease rack was torn out and a lift installed. A bay was added to the building for tire changing. The station was landscaped.

There is something about new equipment and new surroundings which stimulates employes to better efforts. An example of this was seen at Cleveland just about two months ago. National Refining Co., at 40th and Superior, had an old Type A station (a simple sheet metal station of general boxlike character) which it has been modernizing. First, the old pumps were torn out and supplanted with new computer meter pumps. Driveways were widened and paved and the old building moved back to allow workmen to come in and erect a new porcelain enamel modernistic station.

The station was kept open while the work was going on. Despite the fact that men were at work, business increased. The first day the new building was opened the station men went in to see the company purchasing agent and asked for new uniforms. They were no longer contented with their old clothes. It may well be imagined that these men will keep the new station in good condition, will increase their sales efforts and that gallonage will continue to grow. In the first two months sales at this station rose 20 per cent.

At Warren, Ohio, Canfield Oil Co. had a service station which was selling 9000 gallons of gasoline monthly. A new modern porcelain station was built two blocks away on a site which was no better from a business standpoint. The new station sold 15,000 gallons the first month it was open.

Standard Oil Co. of Ohio has been building porcelain and glass stations for two or three years now, to replace old tin stations. Most of you have seen examples of these gleaming red, white and blue stations with their stainless steel trim and wide expanse of plate glass windows. Architecturally, they present a remarkable change from the old Type A tin station. Gallonage gains at these new stations have been astonishing, rising more than 100 per cent in many instances.

* * *

Reviewing the present condition of the industry the speaker told the gasoline pump manufacturers that the oil industry has been improving its financial position throughout the depression. Sixteen oil companies, with assets totaling a little less than eight billion dollars and with a funded debt of $820,000,000 at the end of 1929 have reduced that debt $290,000,000 during the depression.

The industry as a whole has been on a profitable basis for a year and this year consumption of gasoline has increased to the point where indications are that it will exceed the all-time record set in 1931. In the first seven months domestic demand for gasoline increased 7.1 per cent over the same period a year ago, according to U. S. Bureau of Mines reports.

If this rate of increase continues the remainder of the year gasoline consumption will be 5,200,000 barrels greater than in 1931.

Modern service station of Valley View Oil Co. in Waukesha, Wis.

High Salvage, Provided by Structural Station

FOUR years ago the partners of the Valley View Oil Co. started in business in Waukesha, Wis. Retail operations were concentrated at the company's one-stop service station, adjoining the bulk plant, in the western part of the city.

Through these years of marketing experience the company developed one principle, or observation, which it put to practical purpose in selecting the type of building for the second service station, namely that the oil marketing business moves swiftly. So the company's second retail outlet, opened a few months ago, is a porcelain enamel-glass type building.

Company officials picked this type of building on account of several considerations, including the salvage value of the structure, future use of the property, and possible enlargement of the present station.

Experience taught the company that a short range view on station buildings is advisable, as conditions can change so rapidly. Consequently, officials limited their looking ahead on the new station to a five-year period, and gave much consideration to salvage value.

The company's original station, well adapted to present needs, is a permanent structure, suited only to the requirements of a service station business, with a low salvage value. The new station, of structural construction, has a high salvage value, estimated as at least 80 per cent of the present building and equipment, so that, in case a change in location is desirable, the loss in moving would be comparatively slight.

The new station is on a valuable piece of real estate, and the company did not want to commit itself with a permanent investment. It is near the retail section, on the street connecting the business district with the most populous residential section of Waukesha, and the company has extensive frontage.

Some long term plans, hinged on general business conditions, are also in the making as to future company policies so that some radical change might be made in the use of the property. Also, officials gave consideration to the fact that sites on main streets may become too valuable for service station locations.

The new station building is a small type unit, serving as a place for salesmen to come out of inclement weather, and for merchandising storage. Inside space is about 11 by 16 feet. At the rear is a rectangular space for the two rest rooms. At present the space with an outside door has been equipped for a rest room, while the space opening inside the station is used for a store room.

Bulk oil containers are along the side of the building, away from the street intersection. Remainder of the space inside is used for storage on tires, and automobile accessories, with displays built in the windows, and along the pump island and drives.

The building can be enlarged, in case the company should elect to push the service departments. To the side, away from the side street is an outdoor lift. By extending the side walls of the present building, this lubrication space could be enclosed. There is sufficient room at the rear of the station to expand the building back, along the side street. The air compressor, and air storage tank for the lift, at present are at the rear, to be covered with sheet metal.

On exterior walls there is a section of enamel plates at ground level, then the large glass windows across the front and on both sides. The top section is of enamel plates, with the company's name in large letters across the front.

The station has spacious concrete drives. Between the pump island and building are two lanes, and another between the island and the sidewalk. The island has five meter pumps. Four are of the new computer type, each dispensing one of the company's gasolines. The fifth is a pump for cleaner's naphtha. A sixth pump, for kerosine, is at the side, near the head of the lift.

The station was erected in nine days. The company supplying the structural part sent a supervising engineer, but all labor was employed locally, and all possible materials, including the glass, was purchased from local supply houses.

With the Independent Marketer

By E. L. Barringer
N.P. N. Staff Writer

THE establishing of quotas for service station salesmen has increased sales materially for the Home Oil & Gas Co., Cedar Rapids, Iowa.

For many years Frank Whitney operated his stations without quotas, without pushing accessory merchandise too hard. This summer a new policy was placed in effect and the cash register rings more often now.

The month is divided into two quota periods, the station's total sales determined, then the quota divided among the salesmen so each has his own goal. There is no fixed rule for arriving at the quota. Sales for the corresponding month of the previous year, for the previous quota period, and any desired increase, are considered.

Lubrication sales in the first period exceeded the quota by 76 per cent. For the second half of July the company's main station was given a quota of 48 jobs, 12 per salesman. Actual lubrication sales were 63 jobs. In determining the quota for the first half of August the July sales were considered, the quota set at 60 lubrication jobs, or 15 per salesman.

Since the quota system went into effect the company is now netting about $2 daily from extra tire repair sales. The company figures that salesmen have plenty of spare time between sales so that tire repairing does not require extra labor, just the few pennies for materials.

On oil drain sales the company bases the quota on the number of jobs sold, rather than the number of quarts. An automobile crankcase requiring 6 quarts means more business than the 4-quart crankcase, but the company feels that full honor is due the salesman for having solicited a drain and it is not the salesman's fault that the customer's car holds only 4 quarts.

There is some question among jobbers on establishing quotas, and there are good points on both sides. Mr. Whitney, however, believes that business must be sought, or it will go to a competitor, and one way of going after business is to keep salesmen on their toes, alert to every possibility of making a sale.

* * *

In spite of all the mental disturbances in marketing, such as the code, stabilization of prices, and marketing agreements, some jobbers are quietly taking a long range view of their business, figuring on plans for several years in the future.

One jobber, who has concentrated on one-stop service retailing, is making plans to enter the household appliance field, when general business conditions improve.

In his opinion there is a large market even today for mechanical refrigerators, washing machines and ironers, electric stoves, and similar appliances. Many persons now want such merchandise, he believes, and will buy as soon as funds are available. The jobber already has made the first move in this direction by taking on oil burner sales.

The selling of refrigerators and stoves, along with gasoline, oil, and tires, may seem a far fetched idea, but it illustrates a basic trend in petroleum marketing.

Years ago marketing was thought of in terms of wholesaling and today the word "jobber" holds over and is applied even to companies that really are retailers. In recent years, with the passing of many old time jobbing companies, new marketing organizations have entered the field. While these new companies buy gasoline in tank car lots their business really is in company operated service stations.

The change has affected the mental attitude of many "jobbers" towards marketing. Instead of thinking mainly in terms of wholesale markets they think primarily about retailing, whether it is gasoline, oil, tires, oil burners, or refrigerators and radios.

* * *

The plight of business with some parts of the price structure pegged, and others left dangling, is neatly put in the current issue of the Nebraska Petroleum Marketers Association house organ. C. M. Sutherland, secretary, writes:

"From time to time we have heard reports about the celebrated marketing agreement. To date all that has come of it has been that the producers of crude oil have been able to charge $1.08 a barrel, and the major oil companies have been allowed to guarantee a margin of 3-4-4 regardless of the prevailing price to all their retailers. It looks as though the independent refiner and independent marketer are to be classed as the forgotten man. . . . ."

The greater evil of course is plugging the end of the distribution channel, the increased margin to dealers. That was a most uneconomic and backward step for the industry to take. Four cents is too much, and leads to secret price cutting, and gallonage raids. The whole subject of margins, for wholesale and retail market of jobbers, big companies, and dealers needs a thorough study and prompt action to put marketing on a sane foundation.

Refinery — Tank Wagon Markets

Uncertainty Dominates Oil Markets

CLEVELAND, Sept. 17

UNCERTAINTY hovered over petroleum markets throughout the country the second week of September. Buyers hesitated to issue shipping instructions for most commodities with the result that open market trading was practically at a standstill.

The action of the Indiana Standard in reducing the retail price of gasoline in its territory caused great concern to the middle western trade. It further unsettled market conditions and buyers decided to await developments. Tank car prices of gasoline were 0.25 cents lower in Chicago as offerings of what was said to be "hot" gasoline at around 3 cents continued to depress the legitimate market.

Retail markets remained unsettled in the east with lower prices at points in New England and eastern New York.

The wholesale gasoline market in New York was quiet as tank car suppliers watched the stabilization plan develop. This plan was to get under way very soon, it was said, although its affect on the market at this time will not be as noticeable as it would have been a week or two ago.

The Oil Administration won a point in the fight to prevent the landing of cargoes of alleged "hot" gasoline, and its position was strengthened in its fight against "hot" oil in East Texas. However, the status of shipments from East Texas and the fight on tenders was unchanged from a week ago. Intrastate movement of gasoline was unrestricted and refiners were unable to get an injunction against the Texas Railroad Commission's order restricting movement within the state.

Kerosine was steady in all markets. Heating oil was in good demand. Some refiners were running to furnace oils rather than to kerosine because of the heavy demand for the former. This has helped the kerosine market materially. In Pennsylvania some refiners have increased their cracking activities and this has reduced the inventories of fuel oil considerably.

Lubricating oil markets were quiet. Pennsylvania refiners reported increased movement of neutral oils and prices were firm. Some increase in demand for motor oil also was noted.

Considerable activity in the market for wax developed during the week. Prices were around 0.25 cent higher and demand exceeded current supply.

Open Market Activity At Standstill In Chicago

Staff Special

CHICAGO, Sept. 15

THE absence of an active open spot tank car market for gasoline, while not the outstanding development in the Chicago market the week ended Sept. 15, was the one which was causing the most concern to traders.

The reduction Sept. 11 in retail gasoline prices throughout the 12 states which comprise the marketing territory of the Standard Oil Co. of Indiana was the highlight of the week.

The absence of open market activity and the reduction in retail prices by the Indiana company dovetail, in that with the recent reduction, normal prices are placed at a point where marginal contracts become operative, and thus reduce the necessity of purchasing requirements in the open market. Another trend which was reported to be more general is the buying of gasoline on a tank wagon basis by jobbers who, normally, are open spot market buyers.

While the majority of sellers of gasoline of which there was no question of legality continued to hold their production for higher prices, their markets have slipped away to products refined, it was generally thought, from crude or cracking stock that would not pass scrutiny as to legality.

Low octane U. S. Motor gasoline prices were reduced 0.25 cent in the Chicago tank car market Sept. 13. This reduction was brought on by the fact that under the constant pressure of low-priced offers, some sellers were shading quotations in an effort to get business.

Kerosine was fairly steady throughout the week. Prices for the 41.43 w.w. grade generally were at a minimum of 3c. It was said that some refiners now were making a heavier cut, and turning part of what normally would be their kerosine production into furnace oils because of the ready market for the latter. This has eased the pressure on kerosine somewhat.

Heating oils, from the standpoint of price and movement, were the outstanding commodities.

Demand for the No. 1 prime oil continued to exceed supply, and rapidly advancing prices were reported throughout the week. Reports in Chicago were that resellers who had made short commitments still were in the

Summary of Group 3 Quotations for U. S. Motor Gasoline
In Effect September 17, 1934

	62 Octane and Below	63-70 Octane No.	71 Octane and Above
Okla.	3.75-3.875	4.625-5.00	.....
Kans.	3.75-4.00	4.625-4.875	.....
N. Tex.	3.75-3.875	4.50-4.75	.....
W. Tex.	3.75-3.875	4.50-4.625	.....
*E. Tex.	3.50-3.625	4.50-4.75	.....
La.-Ark.	3.625-3.75	4.625-4.75	.....

Prices are those quoted on the basis of f.o.b. Group 3 by refiners in the districts designated.

*From legally produced crude.

market endeavoring to pick up material to apply against their short sales. The continued absence of East Texas material was one of the main factors contributing to the tightness of furnace oils.

Although movement of industrial fuel oils was reported exceptionally light throughout the week, a fair degree of stability was preserved in this market. Steel operations continued at low ebb. It was reported here that increased use of heavy fuel oils for domestic purposes was becoming apparent. Some traders were of the opinion that apartment houses and other large buildings would in the future use the heavier grades of fuel in preference to the lighter oils.

Mid-Continent Refinery Markets

Prices Easier As Refiners Push Shipments

Staff Special

TULSA, Sept. 15

A SCRAMBLE on the part of refiners for shipping instructions, which were noticeably lacking, featured the Mid-Continent market the second week in September. Varying degrees of success resulted from the efforts of refiners to keep their production "rolling." For some products, even reduced prices brought in little relief in the form of instructions, while on others these attempts brought relief without too much sacrifice in price.

The move of Indiana Standard in revising its retail gasoline policy, further unsettled market conditions and caused potential buyers to hold up their transactions until the full import of the move could be ascertained. Among some of the trade, the action portended a possible revision in the crude oil price structure. There were, however, those who believed that the enlarged buying program would be given a tryout before any such move would be taken. A portion of the trade, after a careful study, came to the conclusion that the narrowing of the margin between tank car and retail gasoline prices would eventually work out for the good. It was conceeded by some that the move would result in the buying of gasoline requirements by jobbers directly from major companies on a tank-wagon basis, rather than in tank cars. At the end of the week buyers still were "cagey" in their transactions and a large majority had failed to re-enter the market.

The status of shipments from East Texas and the fight on tenders was unchanged. Intrastate movement virtually was unrestricted. Refiners who had obtained injunctions against the Texas Railroad Commission's orders were unhampered in their shipments within the state. There were few refiners who did not have or could not obtain an injunction against this order. One factor, however, tended to

Chicago Tank Car Market

Following prices are in cents per gallon, except fuel oil in barrels, in tank car lots, representing majority of sales of products made from legally produced crude to jobbers on Group 3 freight basis, although shipments may originate in other refining districts, such as North, West and East Texas, Louisiana, Arkansas, Indiana, Illinois, Kentucky, etc. Prices do not include state or federal taxes levied on some products.

	Prices Sept. 17	Prices Sept. 10	Prices Sept. 4
U. S. Motor Gasoline, by octane numbers:			
62 and below	3.50 – 3.75	3.75 – 4.00	3.75 – 4.00
63-70	4.50 – 4.875	4.50 – 4.875	4.50 – 4.875
71 and above	.....	.....	.....
60-62, 400 e.p. gasoline	3.625– 3.875	3.75 – 4.00	3.875– 4.125
64-66, 375 e.p. gasoline	4.125– 4.25	4.125– 4.25	4.25 – 4.375
68-70, 350-360 e.p. gasoline	4.25 – 4.375	4.25 – 4.375	4.375– 4.50
41-43 water white kerosine	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
42-44 water white kerosine	3.25 – 3.375	3.125– 3.375	3.125– 3.375

	Sept. 17		Sept. 10	
Fuel and Gas Oils:	Domestic	Industrial	Domestic	Industrial
No. 1, white	3.00 – 3.125	.....	2.75 – 2.875	.....
No. 1, straw	2.875– 3.00	.....	2.75 – 2.875	.....
No. 2, dark	2.75 – 2.875	.....	2.625– 2.75	.....
No. 2, straw	2.75 – 2.875	.....	2.625– 2.75	.....
No. 3	2.50 – 2.625	.....	2.50 – 2.625	.....
No. 4	$0.875–$0.925	$0.85 –$0.90	$0.875–0.925	$0.85 –$0.90
U.G.I., gas oil	.....	2.00 – 2.125	.....	2.00 – 2.125
No. 5	$0.625–$0.65	$0.60 –$0.65	$0.625–$0.65	$0.60 –$0.65
No. 6	.....	$0.50 –$0.525	.....	$0.50 –$0.525

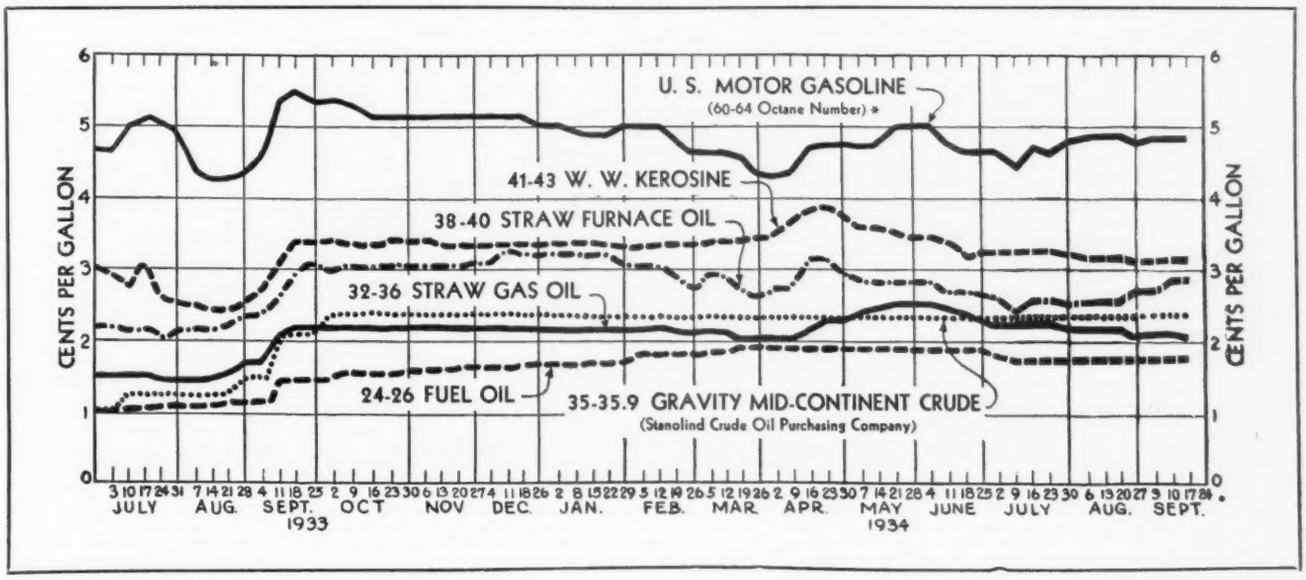
Naphtha and Solvent

(Prices are in cents per gallon, in tank car lots, as quoted by Chicago sellers f.o.b. Group 3 Basis)

	Sept. 17	Sept. 10	Sept. 4
Stoddard Solvent	6.375	6.375	6.375
V. M. & P. Naphtha	6.875	6.875	6.875
Cleaners Naphtha	6.875	6.875	6.875
Oleum Spirits	5.875	5.875	5.875
Rubber Solvent	6.875	6.875	6.875
Lacquer Diluent	7.875	7.875	7.875

Barometer of Mid-Continent Refinery Market

Charted Course of Prices of Crude and Principal Refined Products, Week by Week


U. S. MOTOR GASOLINE
(60-64 Octane Number) *
41-43 W. W. KEROSINE
38-40 STRAW FURNACE OIL
32-36 STRAW GAS OIL
24-26 FUEL OIL
35-35.9 GRAVITY MID-CONTINENT CRUDE
(Stanolind Crude Oil Purchasing Company)
CENTS PER GALLON
JULY AUG. SEPT. OCT NOV DEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT.
1933
1934

*Changed to 63-70 Octane Number Aug. 6, 1934

hold shipments within Texas fairly steady. For instate shipments, refiners are required to furnish a $1000 bond and to obtain a permit allowing them to ship. The number of refiners able to produce this permit were few.

The East Texas district probably was the hardest pushed for shipping instructions. This especially was true of gasoline, kerosine, gas and fuel oils. Distillate, on the contrary, was getting a fairly good play.

Offerings of "hot" gasoline from East Texas during the week ranged from 3 to 3.25 cents on a Group 3 resale basis, with jobber prices generally 0.125 cent higher. Some in-transit gasoline was peddled as low as 2.75 cents. Volume of this material, however, was negligible and could not be called representative of the going market due to the uncertainty as to the origin of the crude from which it was processed. The effect of the low-priced "hot" gasoline on the legitimate market structure was more noticeable the middle of the week.

Reports from East Texas indicated that movement of distillate for coastwise and northern shipment was unusually brisk. Advances of 0.125 to 0.25 cent were registered for the prime white grade. The straw color product was selling only slightly under the price quoted for prime white. The strong distillate market was bolstering kerosine.

There were two distinct markets both for fuel and gas oil in East Texas. As a result, the range of prices was unusually wide. Fuel oil was available at prices ranging from $0.225 to $0.45 per barrel. The uncertainty of market conditions has caused all coastwise buyers to withdraw from the market. With this source of movement gone, shipments to local and northern buyers were the only outlets left. Since much of this fuel was restricted to Texas shipment, suppliers were having difficulty disposing of it. Shipments north, while somewhat better, were not up to expectations. Due to the lack of outlet, the illegal oil was being peddled at prices from $0.225 up. For strictly legal material, prices of $0.35 to $0.40 were quoted. Movement, however, at the higher price was light. High cold test gas oil was available at 1.625 cents, with the low cold test oils bringing as high as 2 cents.

With East Texas distillate scarcer, refiners in other districts were receiving inquiries and orders for this material which normally would have gone to that area. Advancing tendencies were noted in several refining districts. Zero gas oils were getting good play and advances of 0.125 to 0.25 cents were made in Oklahoma and North Texas. Fuel oils in Oklahoma were fairly steady. Reductions in heavy oils were noted in Kansas.

Weakness in the Texas natural gasoline market was noted when manufacturers reduced their quotations for the 26-70 grade 0.375 cent in an effort to dispose of burdensome stocks. The reduction resulted in the placing of substantial business in that district. For the most part the additional movement was for Gulf shipment.

Oklahoma production of Grade 26-70 was well taken care of by local refiners. As a result, the price in this area was steady at 3 cents. Movement of 26-70 to Canada from Oklahoma was reported brisker.

Low vapor pressure natural gasoline was difficult to dispose of. Inquiries for shipment to the Gulf were being quoted and closed at considerably under the usual price differential. The 20-pound vapor pressure was quoted at the same price as the 26-pound grade; and the differential between the 18- and 20-pound grades also has been narrowed considerably.

Lubricating oils showed little fluctuation in price. Stocks were in good position. Although movement could not be called "rushing," instructions on hand were absorbing a large portion of the production. Steam refined stocks, wax and black oil were firmly pegged at unchanged price levels.

Prices A Year Ago

September 18, 1933

	Oklahoma	Penna.
U. S. Motor (60-64 Octane in Okla.; Min. 60 Octane in Pa.)	5.50c	6.50-6.625c
Grade 26-70 Natural Gasoline	5.00c	.....
Kerosine (Okla. 41-43; Pa. 47 w.w.)	3.375-3.50c	5.00-5 125c
Fuel Oil (Okla. 24-26; Pa. 36-40)	$0.60-$0 65	3.625-3.75c
Crude (Okla. 35-35.9)	$0.87	$2.27
Chicago tank wagon (including 3c state, 1.5c federal tax)		17.8c

California Refinery Market

Buyers Inactive Pending Stabilization

Staff Special
New York, Sept. 15

WHOLESALE gasoline markets were generally quiet with prices steady along the Atlantic seaboard during the week ended Sept. 15. Retail markets were reduced fractionally at numerous points in New England by the New York Standard. In territories of the Atlantic Refining Co. and the New Jersey Standard there were a few retail adjustments downward. Tank car markets were quiet as jobbers continued to watch the outcome of the stabilization program.

At New York harbor, Philadelphia and Baltimore little more than routine trading took place. Many large open market suppliers had virtually withdrawn from the market. No instances of pushed sales were reported.

Despite the reductions of retail prices in New England, the tank car markets at Boston and Providence were steady. Shipments were largely against contracts. Reports that retail prices at Boston would be reduced tended to unsettle the outlook but suppliers were reluctant to reduce tank car prices.

The static condition of wholesale gasoiine markets was generally attributed to the stabilization program. One cargo of gasoline was purchased early in the week. Tank car suppliers were inclined to watch the operations of this program instead of pushing sales at lower prices. It was reported at this writing that buying of distress material will begin again within a few days.

However, the slowness of this program to get under way has tended to offset any buoyant influence the plan might have had on the tank car markets. The continuance of unsettled conditions in the fuel and heating oil markets weighed heavily on marketers who ordinarily contract winter supplies at this time. This was particularly true in the New England markets where jobbers reverse their inventories from gasoline to kerosine and heating oils at about this time of year. Occasional industrial business has been taken by refiners at slightly under $1.00 for grade C bunker oil although the general market stands at $1.30 per barrel in the key markets.

Cargo markets at the Gulf were unsettled by offerings at lower prices to export buyers. A cargo of 64-66, 375 end point gasoline was sold to a French buyer at 4.5 cents for prompt lifting. This price was 0.25 cent lower than the majority of quotations. The sale of a cargo of East Texas crude oil at $1.12 per barrel, f.o.b. tanker, tended to reflect the uncertainty prevailing in the crude oil markets. Using the differential of 19 cents to cover pipeline tariff, taxes, etc. this transaction would net back to 93 cents per barrel in the field.

Heating oils and kerosine were tight as large eastern marketers continued to pick up all the available material in the inland refinery districts before it reached the gulf. Bunker oil was slightly steadier as several suppliers raised their quotations. East Texas residuum was quoted at $0.77 per barrel without takers.

Panuco crude was steady at $1.00 to $1.01 per barrel, f.o.b. Tampico. No sales were reported.

Eastern Domestic Markets

Menace Of East Texas Gasoline Diminishes

LOS ANGELES, Sept. 14

PRICES in general were well maintained in all Pacific Coast petroleum markets the past week. Danger of invasion of East Texas gasoline into the northwestern states had, at least temporarily, been removed and the Pacific Coast Petroleum Agency had succeeded in settling the differences that had arisen between marketing companies as a result of gasoline price adjustments made on Aug. 31.

The only obvious threats to market stability came from independent oil producers who announced plans to build additional refineries in the Los Angeles Basin area and from service station operators who were dissatisfied with the present gasoline price.

With the exception of the output of two small independent refineries in the Los Angeles Basin, all competitive and third-grade brands of gasoline were offered at 12.5 cents a gallon for tank wagon deliveries in that area. The two refineries that formed the exceptions to the rule posted tank wagon prices of 12 to 12.25 cents a gallon for their no-brand gasoline. They are, however, chiefly refiners of gasoline substitutes, which they offered at 11 cents at the rack, a reduction of 0.25 cents.

To commercial, agricultural and trade accounts in the Basin area, competitive and third-grade brands were offered at 13.5 cents a gallon in small dumps. Tank truck and trailer allowance to all accounts in the same area was 0.25 cent a gallon.

Natural gasoline quotations remained unchanged at 6.75 to 7 cents a gallon, delivered at refineries, with the supply slightly in excess of demand.

During the week Pacific Coast Petroleum Agency revised its postings of Aug. 27 on kerosine-distillate by making its price of $1.20 a barrel apply to Los Angeles Basin refineries only. It quoted a new price of $1.10 a barrel, f.o.b. San Joaquin and coastal district refineries.

Under the influence of Agency postings, fuel oil prices were firm at somewhat higher levels. An advance of about 2 cents a barrel brought quotations on this product to an average of from 65 to 67 cents a barrel, f.o.b. independent refineries in the Basin area. Demand for this product continued active, especially under contract for shipment to the Orient. Fewer inquiries were reported for spot deliveries to domestic industrial and agricultural users.

Pacific Coast seaboard markets were quiet so far as spot shipment were concerned, in contrast to the activity that had been reported in recent weeks. No changes were recorded in quotations on either bulk or cased goods.

Wax Markets

Scale Prices Up

NEW YORK, Sept. 15.—Considerable improvement was noted in wax markets at New York and New Orleans during the week just ended. Inquiry was active for lots ranging from 100 to 800 tons. Prices were generally 0.125 cent higher. White scale, 124-126 A.m.p., was held closely at 3.25 cents per pound.

Fully refined waxes were in fair demand at unchanged prices.

Pennsylvania Markets

Wax Advances in Active Trading

CLEVELAND, Sept. 17.—Activity in wax increased substantially in the Pennsylvania market the second week of September. Aside from this, little change in the general market situation occurred during the week.

Eastern brokers were actively bidding for wax, and with few refiners having this material available, prices have worked higher. The higher bids failed to bring out new offerings.

Kerosine continued in good demand and no price shading was noted. Several refiners were said to have sold their September output of this oil and higher prices were predicted in some quarters.

Movement of fuel oil, while not as brisk as earlier in the month, continued fair. Refiners' inventories were comparatively low and several refiners were planning to increase their cracking operations during the next few weeks.

Trading in furnace oil has increased as cold weather approaches and this has benefited the kerosine and fuel oil market materially.

Crude runs to stills have been cut materially the past few weeks and the outlook for the market for fuel oil and kerosine from the sellers standpoint at least was very favorable. Industrial demand has not been good.

Gasoline has become the dull spot of the market. Movement was slow and lower prices were being quoted by most sellers in an effort to stimulate buying. U. S. Motor was quoted at 5.5 cents in the north field and 0.125 cent lower in the south field although some shading of these prices was reported. Lower retail prices and a surplus of material in the normal market for Pennsylvania gasoline were blamed for depressing the market.

Lubricating oils remained quiet throughout the week. Little price shading of cylinder stocks or bright stock was noted. However, larger offerings of cylinder stocks were reported.

Demand for neutral oils has increased considerably since the first of the month. Movement has been good and higher prices were looked for by some traders.

Cash Recorder Pump

The latest addition to the cash recorder style of gasoline pump is the new Comput-O-Pump manufactured by The American Oil Pump & Tank Co., Cincinnati. The two dial style is used with cash dial at the top in an octagonal frame and gallonage recorder below in a smaller square. A glass panel advertising display is used instead of the customary globe.

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Pittsburgh, Penna.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted. They do not represent inter-refinery sales or sales made for export.

Tank car prices do not include state or federal taxes levied on some products.

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

	Prices Sept. 17	Prices Sept. 10	Prices Sept. 4
OKLAHOMA (F. o. b. Oklahoma refineries)			
50-52, 450 e.p. naphtha..	3.625– 3.875	3.625– 3.875	3.625– 3.875
U. S. Motor Gasoline			
62 octane and below...	3.75 – 3.875	3.75 – 4.00	3.75 – 4.00
63-70 octane number...	4.625– 5.00	4.625– 5.00	4.625– 5.00
71 octane and above...	.....	.....	.....
60-62, 400 e.p. Gasoline..	3.75 – 4.00	3.75 – 4.125	3.75 – 4.125
64-66, 375 e.p. Gasoline..	4.25 – 4.375	4.25 – 4.375	4.25 – 4.375
68-70, 350-360 e.p. gasoline	4.375– 4.50	4.375– 4.50	4.375– 4.50

WESTERN PENNSYLVANIA (Quotations and/or sales prices to car unloaders)

	Prices Sept. 17	
	Bradford-Warren	Other Districts
52-54 Naphtha.....	5.50 – 5.625	5.375– 5.50
54-56 Naphtha.....	.....	5.50 – 5.625
Motor Gasoline:		
U. S. Motor (58-62°)..	5.50 – 5.625	5.375– 5.50
Minimum 60 octane...	6.125– 6.25	6.125– 6.25
Minimum 65 octane...	6.50 – 6.625	6.50 – 6.625
Minimum 70 octane...	6.75 – 6.875	6.75 – 6.875
64-66, 390 e.p. gasoline...	6.00 – 6.125	6.00 – 6.125
68-70, 350-360 e.p. gasoline.....	6.25 – 6.375	6.25 – 6.375

Prices	Sept. 17	Sept. 10	Sept. 4
CALIFORNIA (3c tax to be added to prices if used in state.)			
54-58 U.S. Motor, 437 e.p.	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
54-58 U.S. Motor, 437 e.p. for outside state shipment	6.50 – 7.50	6.50 – 7.50	6.50 – 7.50
58-61, 375-400 e.p. gasoline, 65 octane and above	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
42-45 Engine Distillate 445-480 e.p.....	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
KANSAS (F. o. b. refinery, Kansas destination)			
U. S. Motor Gasoline			
62 octane and below...	4.00 – 4.125	4.00 – 4.125	4.00 – 4.125
63-70 octane number..	4.75 – 5.00	4.875– 5.00	4.875– 5.00
71 octane and above...	.....	.....	.....
60-62 400 e.p. gasoline...	4.00 – 4.125	4.00 – 4.25	4.00 – 4.25
NORTH TEXAS‡ (F. o. b. Wichita Falls district for unrestricted shipment; prices apply on products made from legally produced crude)			
U. S. Motor Gasoline			
62 octane and below...	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875
63-70 octane number...	4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
71 octane and above...	.....	.....	.....
60-62 400 e.p. gasoline...	3.75 – 4.00	3.75 – 4.00	3.75 – 4.00
64-66 375 e.p. gasoline...	4.25	4.125– 4.25	4.125– 4.25
68-70 350-360 e.p. gasoline	4.375	4.25 – 4.375	4.25 – 4.375
WEST TEXAS‡ (F. o. b. West Texas refinery or unrestricted shipment; prices apply on products made from legally produced crude)			
U. S. Motor Gasoline			
62 octane and below...	3.75 – 3.875	3.75 – 3.875	3.75 – 3.875
63-70 octane number..	4.50 – 4.75	4.625– 4.75	4.625– 4.75
71 octane and above...	.....	.....	.....
EAST TEXAS‡ (F. o. b. West Texas refinery for unrestricted shipment; prices apply on products made from legally produced crude)			
U. S. Motor Gasoline			
62 octane and below...	3.50 – 3.625	3.75 – 3.875	3.75 – 3.875
63-70 octane number..	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625
71 octane and above...	.....	.....	.....
60-62, 400 e.p. gasoline...	3.50 – 3.75	3.75 – 4.00	3.75 – 4.00
NORTH LOUISIANA (For Louisiana and Arkansas destination)			
U. S. Motor Gasoline			
62 octane and below...	4.25	4.25	4.25
63-70 octane number...	5.00	5.00	5.00
71 octane and above...	5.25	5.25	5.25
ARKANSAS (For Arkansas and Louisiana destination)			
U. S. Motor Gasoline			
62 octane and below...	4.25	4.25	4.25
63-70 octane number...	5.00	5.00	5.00
71 octane and above...	5.25	5.25	5.25

Note: Octane numbers shown above are determined by C. F. R. motor method. (A. S. T. M. D. 357 M 33 T.)

‡Refiners generally receive 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

†Prices Nominal. ††Only one refiner Quoting. *Quotations only.

	Prices Sept. 17	Prices Sept. 10	Prices Sept. 4
OHIO (Quotations of S. O. Ohio. Delivered any point in Ohio.)			
U. S. Motor Gasoline....	7.375	7.375	7.375
Above 65 Octane number	7.625	7.625	7.625

NATURAL GASOLINE

(Prices f.o.b. Group 3 and Breckenridge represent majority of sales made on dates shown to blenders on the freight basis shown below, although shipments may originate in other manufacturing districts, such as East Texas, Panhandle, Southwest Texas and Kansas).

Grade 26-70..... (F. o. b. Group 3)	3.00	3.00	3.00
Grade 26-70..... (F. o. b. Breckenridge)	‡2.375– 2.75	3.00	3.00
CALIFORNIA (F. o. b. plants in the Los Angeles basin)			
75-85, 375-390 e.p. for blending.....	6.75 – 7.00	6.75 – 7.00	7.00 – 7.25

‡Represents quotations and offers to buy.

BURNING OILS

WESTERN PENNSYLVANIA (Quotations and/or sales prices to car unloaders)

	Prices Sept. 17	
	Bradford-Warren	Other Districts
45 w.w. kerosine.....	4.50 – 4.625	4.50 – 4.625
46 w.w. kerosine.....	4.625– 4.75	4.625– 4.75
47 w.w. kerosine.....	4.75 – 4.875	4.75 – 4.875

Prices	Sept. 17	Sept. 10	Sept. 4
OKLAHOMA (F. o. b. Oklahoma refineries)			
41-43 w.w. kerosine.....	3.125– 3.25	3.125– 3.25	3.00 – 3.25
42-44 w.w. kerosine.....	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
KANSAS (F. o. b. refinery Kansas destination)			
41-43 w.w. kerosine.....	3.375– 3.50	3.25 – 3.50	3.25 – 3.50
42-44 w.w. kerosine.....	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625
NORTH TEXAS‡ (F. o. b. Wichita Falls district for unrestricted shipment; prices apply on products made from legally produced crude)			
41-43 w.w. kerosine.....	3.125– 3.25	3.125– 3.25	3.125– 3.25
EAST TEXAS‡ (F. o. b. East Texas refiners for unrestricted shipment; prices apply on products made from legally produced crude)			
41-43 w.w. kerosine.....	2.875– 3.00	2.875– 3.00	2.875– 3.00
NORTH LOUISIANA (For Louisiana and Arkansas destination)			
41-43 w.w. kerosine.....	3.625	3.625	3.625
ARKANSAS (For Louisiana and Arkansas destination)			
41-43 w.w. kerosine.....	3.75	3.75	3.75
CALIFORNIA (F. o. b. California refineries)			
38-40 w.w. kerosine.....	5.00 – 5.25	5.00 – 5.25	5.00 – 5.25

NEUTRAL OIL

WESTERN PENNSYLVANIA (Quotations and/or sales prices to car unloaders)

Vis.	Viscous Neutrals (Viscosity at 70° F.)		
200 (180 at 100) No. 3 color 420-425 flash:			
Zero pour test.....	29.50 –30.00	29.50 –30.00	29.50 –30.00
10 pour test.....	28.50 –29.00	28.50 –29.00	28.50 –29.00
15 pour test.....	28.00 –28.50	28.00 –28.50	28.00 –28.50
25 pour test.....	27.50 –28.00	27.50 –28.00	27.50 –28.00
180 No. 3 color, 410-415 flash:			
25 pour test.....	24.50 –25.00	24.50 –25.00	24.50 –25.00
150 No. 3 color, 400-405 flash:			
Zero pour test.....	23.00 –23.50	23.00 –23.50	23.00 –23.50
10 pour test.....	22.00 –22.50	22.00 –22.50	22.00 –22.50
15 pour test.....	21.50 –22.00	21.50 –22.00	21.50 –22.00
25 pour test.....	21.00 –21.50	21.00 –21.50	21.00 –21.50

SOUTH TEXAS (F. o. b. South Texas refineries)

Vis. Color	(Viscosity at 100° F., pour test 0)		
100—No. 1½-2½ pale..	5.75	5.75	5.75
200—No. 2-3 Pale.....	7.50	7.50	7.50
300—No. 2-3 Pale.....	8.00	8.00	8.00
500—No. 2½-3½ Pale..	9.00	9.00	9.00
750—No. 3-4 Pale.....	9.50	9.50	9.50
1200—No. 3-4 Pale.....	10.00	10.00	10.00
2000—No. 3-4 Pale.....	10.50	10.50	10.25 –10.50
200—No. 5-6 Red Oil...	7.50	7.50	7.50
300—No. 5-6 Red Oil...	8.00	8.00	8.00
500—No. 5-6 Red Oil...	9.00	9.00	9.00
750—No. 5-6 Red Oil...	9.50	9.50	9.50
1200—No. 5-6 Red Oil...	10.00	10.00	10.00
2000—No. 5-6 Red Oil...	10.50	10.50	10.25 –10.50

Note: Red oil prices shown above cover oils with green cast, blue cast red oils are slightly lower in some cases.

Refinery Markets, Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, except where $ is shown in tank car lots, f.o.b. Refinery. They represent prices made only to domestic jobbers who resell to the consuming public, except where otherwise noted. They do not represent inter-refinery sales or sales made for export.

Tank car prices do not include state or federal taxes levied on some products.

(For quick reference to refinery Prices, get the OIL PRICE HANDBOOK, published annually)

Prices Sept. 17

MID-CONTINENT (Vis. at 100° F.; F. o. b. Tulsa basis)
Prices represent quotations and sales.

Vis. Color	0 to 10 Pour Point	15 to 30 Pour Point
60-85	5.25	4.75
86-110	5.75	5.25
150—No. 3	10.00	9.00
150—No. 4	9.50	8.50
180—No. 3	11.25	10.25
180—No. 4	10.75	9.75
180—No. 5	10.25	9.25
200—No. 3	11.75	10.75
200—No. 4	11.25	10.25
200—No. 5	10.75	9.75
220—No. 3	12.75	11.75
220—No. 4	12.25	11.25
220—No. 5	11.75	10.75
240—No. 3	13.75	12.75
240—No. 4	13.25	12.25
240—No. 5	12.75	11.75
280—No. 3	14.75	13.75
280—No. 4	14.00	13.00
280—No. 5	13.50	12.50
300—No. 3	15.25	14.50
100—No. 5-6	13.25	13.00

CHICAGO (F. o. b. Chicago district refineries)

Prices Sept. 17

Vis. Color Pale Oils (Vis. at 100°F.)		*15 to 30 Pour Point Vis. Color Red Oils	
60-85—No. 2	6.50		
86-110—No. 2	7.00	180—No. 5	10.25
140—No. 3	9.75	200—No. 5	10.75
160—No. 3	10.50	220—No. 5	11.75
180—No. 3	11.25	250—No. 5	12.75
200—No. 3	11.75	280—No. 5	13.50
150—No. 3	13.75	300—No. 5	14.00

*Oils with 0 to 10 pour point bring 1c higher than above prices. To above prices add 0.25c to obtain prices delivered in Chicago.

CALIFORNIA (F. o. b. California refineries; Viscosity at 100°F.)

All neutral oils, 13.5c per gal. in tank car lots, and 15.5c in iron bbls. to refiners only, excluding federal tax.

CYLINDER STOCKS

Prices	Sept. 17	Sept. 10	Sept. 4
MID-CONTINENT (F. o. b. Tulsa basis) (Prices represent Quotations and Sales)			
Bright Stocks:			
190-200 Vis. D at 210°	19.75	19.75	19.75
150-160 Vis. at 210°:			
0-10 cold test	17.00	17.00	17.00
10-25 cold test	16.50	16.50	16.50
25-40 cold test	16.00	16.00	16.00
150-160 Vis. E 210°	16.00	16.00	16.00
120 Vis. D, 210:			
0-10 cold test	15.50	15.50	15.50
10-25 cold test	15.00	15.00	15.00
25-40 cold test	14.50	14.50	14.50
600 St. Ref. Olive Green	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
600 St. Ref. Dark Green	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
631 Steam Refined	11.00	11.00	11.00
Black Oil	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
CHICAGO (F. o. b. Chicago district refineries)			
140 unfiltered	9.00	9.00	9.00
160 unfiltered	10.00	10.00	10.00
100 unfiltered	11.00	11.00	11.00
Bright stock, 160 vis. No. 8 color:			
0 to 10 cold test	18.75	18.75	18.75
15 to 25 cold test	18.25	18.25	18.25
30 to 40 cold test	17.75	17.75	17.75
E filtered Cyl. Stock	15.50	15.50	15.50
WESTERN PENNSYLVANIA (A. S. T. M. Tests; Quotations and/or sales prices to car unloaders)			
600 Steam Refined	12.50 –13.00	12.50 –13.00	12.50 –13.00
650 Steam Refined	15.00 –15.50	15.00 –15.50	15.00 –15.50
600 Flash	16.00 –16.50	16.00 –16.50	16.00 –16.50
630 Flash	20.50 –21.00	20.50 –21.00	20.50 –21.00
600 Warren E	16.00 –16.50	16.00 –16.50	16.00 –16.50
Bright Stock, No. 8 color 140-150 vis. at 210°, 540-550 flash:			
10 pour test	21.50 –22.00	21.50 –22.00	21.50 –22.00
15 pour test	21.00 –21.50	21.00 –21.50	21.00 –21.50
20 pour test	20.50 –21.00	20.50 –21.00	20.50 –21.00
35 pour test	20.00 –21.00	20.00 –21.00	20.00 –21.00

PETROLATUMS

WESTERN PENNSYLVANIA (Per pound, in barrels, carload lots, f.o.b. Penna. refinery. In tank cars 0.5c per pound less. Quotations are from majority of petrolatum makers).

Snow White	7.375– 7.50	7.375– 7.50	7.375– 7.50
Lily White	6.375– 6.50	6.375– 6.50	6.375– 6.50
Cream White	5.375– 5.50	5.375– 5.50	5.375– 5.50
Light Amber	2.875– 3.00	2.875– 3.00	2.875– 3.00
Amber	2.625– 2.75	2.625– 2.75	2.625– 2.75
Red	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625

†Prices Nominal.

WAX

	Prices Sept. 17	Prices Sept. 10	Prices Sept. 4
WESTERN PENNSYLVANIA (Per pound, F. o. b. New York)			
122-124 white crude scale a.m.p.	3.20 – 3.25	3.00 – 3.05	2.95 – 3.00
124-126 white crude scale a.m.p.	3.25 – 3.30	3.05 – 3.10	3.00
OKLAHOMA (Per pound in barrels; in a few instances, per pound in burlap bags; F. o. b. Oklahoma refineries.)			
124-126 white crude scale a.m.p.	3.00 – 3.25	3.00 – 3.125	3.00 – 3.125
CHICAGO (F. o. b. Chicago district refineries, in cents per pound, in bags, carload lots. Melting points are A.S.T.M. method: add 3° F. to convert into A.M.P.)			
122-124 fully refined	4.90 – 5.00	4.90 – 5.00	4.90 – 5.00
125-127 fully refined	5.15 – 5.25	5.15 – 5.25	5.15 – 5.25
127-129 fully refined	5.30 – 5.40	5.30 – 5.40	5.30 – 5.40
130-132 fully refined	5.90 – 6.00	5.90 – 6.00	5.90 – 6.00
132-134 fully refined	6.15 – 6.25	6.15 – 6.25	6.15 – 6.25
135-137 fully refined	6.90 – 7.00	6.90 – 7.00	6.90 – 7.00

GAS AND FUEL OIL

WESTERN PENNSYLVANIA (Quotations and/or sales prices to car unloaders.)

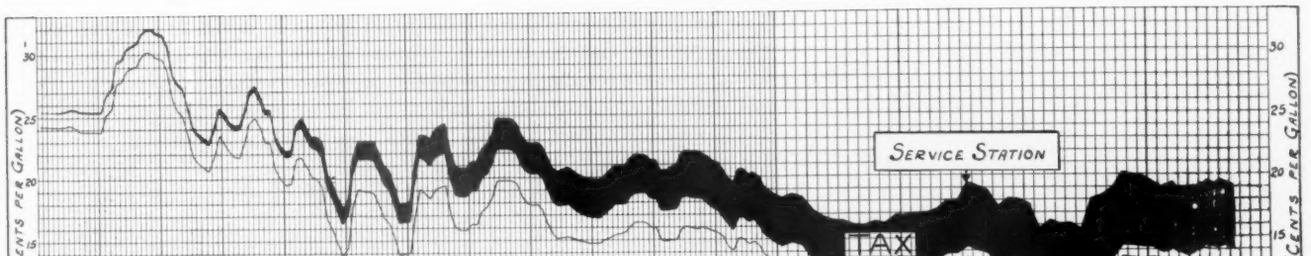
Prices Sept. 17

	Bradford-Warren	Other Districts
36-40 fuel oil	3.875–4.00	3.75 –3.875

Prices	Sept. 17	Sept. 10	Sept. 4
OKLAHOMA (F. o. b. Oklahoma refineries)			
38-40 straw furnace Oil	2.75 – 2.875	2.75 – 2.875	2.625– 2.75
32-36 straw gas oil	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125
32-36 straw gas oil zero	2.625– 2.75	2.50 – 2.625	2.50 – 2.625
32-36 dark gas oil	2.00 – 2.125	2.00 – 2.125	2.00 – 2.125
32-36 dark gas oil zero	2.625– 2.75	2.50	2.50
28-30 fuel oil,zero(per bbl.)	$1.00 –$1.025	$1.00 –$1.025	$1.00 –$1.025
28-30 fuel oil (per bbl.)	$0.90	$0.90	$0.90
24-26 fuel oil (per bbl.)	$0.725–$0.75	$0.725–$0.75	$0.725–$0.75
22-26 fuel oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
18-22 fuel oil (per bbl.)	$0.70 –$0.725	$0.70 –$0.725	$0.70 –$0.725
16-20 fuel oil (per bbl.)	$0.65 –$0.70	$0.65 –$0.70	$0.65 –$0.70
14-16 fuel oil (per bbl.)	$0.65 –$0.675	$0.65 –$0.675	$0.65 –$0.675
KANSAS (F. o. b. refinery Kansas destination)			
38-40 straw furnace Oil	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
18-22 fuel oil (per bbl.)	$0.75 –$0.80	$0.80 –$0.825	$0.80 –$0.825
10-14 fuel oil (per bbl.)	$0.625–$0.675	$0.675–$0.70	$0.675–$0.70
NORTH TEXAS (F. o. b. Wichita Falls district refineries for unrestricted shipment; prices apply on products made from legally produced crude)			
38-40 straw furnace Oil	2.75	2.625	2.625
38-40 prime white Furnace Oil	2.75 – 2.875	2.75	2.75
32-36 gas oil, zero	2.00 – 2.125	2.50 – 2.625	2.50 – 2.625
32-36 gas oil	2.50 – 2.625	2.00 – 2.125	2.00 – 2.125
24-26 fuel oil (per bbl.)	$0.75 –$0.775	$0.75 –$0.775	$0.75 –$0.775
18-22 fuel oil (per bbl.)	$0.675–$0.70	$0.675–$0.70	$0.675–$0.70
WEST TEXAS (F. o. b. West Texas refineries for unrestricted shipment prices apply on products made from legally produced crude)			
32-36 gas oil, zero	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
18-22 fuel oil (per bbl.)	$0.625–$0.675	$0.625–$0.675	$0.625–$0.675
EAST TEXAS (F. o. b. East Texas refineries for unrestricted shipment; prices apply on products made from legally produced crude)			
38-40 p.w. furnace oil	2.75 – 2.875	2.625	2.625
32-36 gas oil	1.625– 1.75	1.625– 1.75	1.625– 1.75
20-24 fuel oil	$0.35 –$0.40	$0.375–$0.425	$0.375–$0.425
NORTH LOUISIANA (For Louisiana and Arkansas destination)			
32-36 gas oil	2.625– 2.75	2.625– 2.75	2.625– 2.75
32-36 gas oil, zero	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
20-24 fuel oil	$0.95	$0.95	$0.95
16-20 fuel oil	$0.80 –$0.85	$0.80 –$0.85	$0.80 –$0.85
10-14 fuel oil	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
ARKANSAS (For Arkansas and Louisiana destination)			
32-36 gas oil	2.625– 2.75	2.625– 2.75	2.625– 2.75
32-36 gas oil, zero	3.25	3.00 – 3.125	3.00 – 3.125
28-30 gas oil, zero	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
20-24 fuel oil (per bbl.)	$0.85 –$0.90	$0.85 –$0.90	$0.85 –$0.90
16-20 fuel oil	$0.75 –$0.80	$0.75 –$0.80	$0.75 –$0.80
10-14 fuel oil	$0.625–$0.65	$0.625–$0.65	$0.625–$0.65
CALIFORNIA* (F. o. b. San Joaquin Valley)			
14-18 fuel oil (per bbl.)	$0.63 –$0.67	$0.60 –$0.65	$0.60 –$0.65
14-18 bunker oil (per bbl.)	$0.60 –$0.70	$0.60 –$0.70	$0.60 –$0.70
30-34 gas oil (per bbl.)	$1.00 –$1.15	$1.00 –$1.15	$1.00 –$1.15
27 Plus diesel oil (per bbl.)	$1.05 –$1.15	$1.05 –$1.15	$1.05 –$1.15

*Nominal pipe line charge to San Francisco, 24c per bbl. more, and to San Pedro, 20c per bbl. more.

Trend of Gasoline Prices and Gasoline Taxes, at 50 Representative Cities



Tank Wagon, Service Station Markets for Gasoline and Kerosine

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

Tax column includes 1c federal tax, state gasoline tax; also city and county taxes as indicated in footnotes

These Prices in Effect September 17, 1934, as Posted by Principal Marketing Companies

Latest Changes in Tank Wagon Markets

Motor Gasoline

S. O. New Jersey—Essolene: S.s. up 4c, Salisbury, to 21c, **Aug. 31.**

S. s. cut 0.9c, Charlotte, to 22c, **Sept. 11.**

S. O. New York—Socony; Dealer, t.w. and s.s. reduced at following points, in amounts and on dates indicated, dealer prices excluding taxes, and t.w. and s.s. including state and federal taxes:

Albany, 1c, to 8.5c, 15c and 16c, **Sept. 8.**

Bangor, 1.5c, to 10c, 17.5c and 18.5c, **Sept. 11;** cut 1c, to 9c, 16.5c, and 17.5c, **Sept. 12.**

Portland, 3.2c, to 7.5c, 15c and 16c, **Sept. 11.**

Concord, 1c, to 10.5c, 18c and 19c, **Sept. 11.**

Lancaster, 1.2c, to 11c, 18.5c and 19.5c, **Sept. 11.**

Manchester, 1c, to 10c, 17.5c and 18.5c, **Sept. 11.**

Rutland, 0.5c, to 11c, 18.5c and 19.5c, **Sept. 11.**

Plattsburg, 1c, to 10.5c, 17c and 18c, **Sept. 12.**

Hartford, 1c, to 9.5c, 15c and 16c, **Sept. 13.**

Atlantic Refining—White Flash Plus: T.w. and s.s. up 5.5c Wilmington, Del., 15.5c and 17.5c, **Sept. 8.**

T.w. and s.s. cut 0.5c, Springfield and Worcester, to 15c and 17c, respectively at both points, **Sept. 12** and **Sept. 8** respectively.

T.w. cut 1c, Jacksonville, to 17c, **Sept. 5.**

S. O. Kentucky—Crown: T.w. and s.s. up 4c, Paducah, to 18c and 20c, **Sept. 10.**

T.w. cut 1c, Jacksonville, to 17c, **Sept. 3.**

Kyso: T.w. and s.s. up 5.5c, Paducah, to 16.5c and 18.5c, **Sept. 10.**

S. O. Indiana—New prices published in this table reflect the price reduction of Sept. 11 at as many points as it has been possible to obtain them to date. Any corrections over these prices will be published in this column as soon as they are available. For details of this change, see Sept. 12 issue, page 21.

Magnolia Petroleum — Mobilgas: T.w. and s.s. cut 3c, Oklahoma City, to 12c and 14c, **Sept. 1.**

T.w. and s.s. cut 2c, Houston, to 14c and 16c, **Sept. 1.**

T.w. and s.s. cut 1c, San Antonio, to 15c, and 17c, **Aug. 30.**

T.w. and s.s. up 0.5c, El Paso, to 18.5c and 20.5c, **Sept. 1.**

Metro: T.w. and s.s. cut 3c, Oklahoma City, to 10c and 12c, **Sept. 1.**

T.w. and s.s. cut 1c, Dallas, to 9c and 11c, **Aug. 27.**

T.w. and s.s. cut 4c, Houston, to 10c and 12c, **Aug. 31.**

T.w. and s.s. cut 1c, San Antonio, to 13c and 15c, **Aug. 28.**

T.w. and s.s. up 1c, El Paso, to 16c and 18c, **Sept. 1.**

Mobilgas: T.w. and s.s. up 2c, Houston, to 16c and 18c, **Sept. 13.**

Metro: T.w. and s.s. up 4c, Houston, to 14c and 16c, **Sept. 17.**

T.w. and s.s. cut 3c, San Antonio, to 10c and 12c, **Sept. 12.**

S. O. California—Standard: T.w. and s.s. cut 1c, Reno, to 19c and 21c, **Aug. 31.**

Flight: Correction: T.w. and s.s. cut 0.5c, thru Oregon and Washington, **Aug. 31,** instead of 1c, as reported on page 49 of **Sept. 5** issue. Prices are corrected in this issue.

T.w. and s.s. cut 1c, thru Nevada, making prices at Reno 17c and 19c, **Aug. 31.**

Canada, Imperial Oil—Imperial Three Star: S.s. cut 1c, Vancouver, to 30c, **Sept. 7.**

Kerosine

S. O. New York—Cut 0.5c, Providence, to 8c t.w., **Sept. 12.**

Atlantic Refining—Cut 0.25c, Hartford, to 7.5c t.w., **Sept. 7.**

Magnolia Petroleum—Cut 1c, Tulsa, to 7.5c, t.w., **Sept. 12.**

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:
Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel: 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.
Kerosine inspection fees only: Iowa, 2/25c; Michigan, 4/5c per gal for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/13c for next 15, and 1/5c per gal in lots over 25 bbls.

(Continued on next page)

Tank Wagon, Service Station Markets for Gasoline and Kerosine

Tax column includes 1c federal tax, state gasoline tax; also city and county taxes as indicated in footnotes

These Prices in Effect September 17, 1934, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Posted Tank Car	Essolene Retail T.W.	Essolene Tax-es	Essolene Posted S.S.	Kero-sine T.W.
Atlantic City, N. J.	8.5	15	4	18.5	10
Newark, N. J.	7.8	14.3	4	17.8	9.5
Annapolis, Md.	8.1	14.6	5	19.1	10
Baltimore, Md.	7.6	14.1	5	18.6	9.5
Cumberland, Md.	9.1	15.6	5	20.1	12.7
Washington, D. C.	7.8	14.3	3	16.8	11.5
Danville, Va.	9.2	15.7	6	21.2	12.9
Norfolk, Va.	7.7	14.2	6	19.7	11.3
Petersburg, Va.	8	14.5	6	20	11.4
Richmond, Va.	8	14.5	6	20	11.7
Roanoke, Va.	9.3	15.8	6	21.3	12.9
Charleston, W. Va.	8.5	15	5	19.5	12.6
Parkersburg, W. Va.	7.8	14.3	5	18.8	11.2
Wheeling, W. Va.	8.5	15	5	19	12.2
Charlotte, N. C.	9.9	16.4	7	22	13.5
Hickory, N. C.	10.2	16.7	7	23.2	13.7
Mt. Airy, N. C.	10.2	16.7	7	21.2	13.8
Raleigh, N. C.	9.7	16.2	7	22.7	13.3
Salisbury, N. C.	10	16.5	7	21	13.6
Charleston, S. C.	7.7	14.2	7	20.7	11.3
Columbia, S. C.	9.5	16	7	22	13.2
Spartanburg, S. C.	9.9	16.4	7	22.5	13.5

Price basis to dealers: Dealer contracts for Essolene are written at dealers' price, which to divided dealers is 2.5c per gal. above tank car price, and to undivided dealers, is dealer price less 0.5c per gal. Note: Beginning Dec. 28, 1933, voluntary discounts off posted tank car price given to dealers thru territory, where service station prices are subnormal.

Price basis to commercial consumers: Consumer t.w. price at time and place of delivery, consumer t.w. is generally 2c off s.s. price.

Kerosine Discount: 1c off t.w. price for 25 gals or more, under contract thru territory (Baltimore City contract not necessary) except no discount in New Jersey.

S. O. NEW YORK

	Socony Gasoline Posted Dealer	Total Posted Taxes	Total Posted T.W.	Total Posted S.S.	Kero-sine T.W.
Metropolitan New York City, including Staten Island	10	4	16.5	17.5	8.5
Albany, N. Y.	8.5	4	15	16	9
Binghamton, N. Y.	11	4	17.5	18.5	9.25
Buffalo, N. Y.	11	4	17.5	18.5	9
Jamestown, N. Y.	11	4	17.5	18.5	9
Plattsburg, N. Y.	10.5	4	17	18	9.75
Rochester, N. Y.	10.5	4	17	18	9.25
Syracuse, N. Y.	10.5	4	17	18	9.25
Danbury, Conn.	10.5	3	16	17	8.5
Hartford, Conn.	9.5	3	15	16	7.5
New Haven, Conn.	9.5	3	15	16	7.50
Bangor, Me.	9	5	16.5	17.5	9.5
Portland, Me.	7.5	5	15	16	8.75
Boston, Mass.	8.5	4	15	16	8
Concord, N. H.	10.5	5	18	19	9.25
Lancaster, N. H.	11	5	18.5	19.5	9.75
Manchester, N. H.	10	5	17.5	18.5	9
E. Providence, R. I.	7.5	3	13	14	8
Burlington, Vt.	11.5	5	19	20	9.75
Rutland, Vt.	11	5	18.5	19.5	9.75

Discounts to commercial consumers, 2c under s.s. price at time and place of delivery in accordance with CD-1 Official Commercial Consumer Contract

Third Grade Gasoline

Offered only at points where competition requires at s.s., 2c below s.s. prices of Socony. Dealers get 2c margin.

ATLANTIC REFINING

Atlantic White Flash Plus Gasoline

	Total T.W.	Total Taxes	Total T.W.	S.S.	Kero-sine T.W.
Philadelphia, Pa.	11.5	4	15.5	17.5	10
Pittsburgh, Pa.	12	4	16	18	10
Allentown, Pa.	11.5	4	15.5	17.5	10
Erie, Pa.	12	4	16	18	9
Scranton, Pa.	12	4	16	18	10
Altoona, Pa.	12	4	16	18	10
Dover, Del.	12	4	16	18	10
Wilmington, Del.	11.5	4	15.5	17.5	9
Boston, Mass.	10	4	14	16	8
Springfield, Mass.	11	4	15	17	8.75
Worcester, Mass.	11	4	15	17	8.75
Fall River, Mass.	10.5	4	14.5	16.5	8.5
Providence, R. I.	9	3	12	14	8.5
Hartford, Conn.	12	3	15	17	7.5
New Haven, Conn.	11	3	14	16	7.5
Atlantic City, N. J.	12.5	4	16.5	18.5	10
Camden, N. J.	12	4	16	18	10
Trenton, N. J.	12.1	4	16.1	18.1	10
Annapolis, Md.	12.1	5	17.1	19.1	9.5
Baltimore, Md.	11.6	5	16.6	18.6	9.5

ATLANTIC REFINING (Cont'd)

Atlantic White Flash Plus Gasoline

	Total T.W.	Total Taxes	Total T.W.	S.S.	Kero-sine T.W.
Hagerstown, Md.	11	5	16	18	10
Richmond, Va.	12	6	18	20	11.7
Wilmington, N. C.	11.8	7	18.8	20.8	11.4
Brunswick, Ga.	13	7	20	22	*13.5
Jacksonville, Fla.	9	8	17	20	11.5

Note: Tank wagon prices are those applicable to consumers purchasing lots of 100 gals. or over in one delivery and in accordance with CD-1 Official Commercial Consumer Contract.

Dealer discounts: on Atlantic White Flash Plus gasoline, thru territory, divided dealers, price equal to 3.5c off posted s.s. price; undivided dealers, price equal to 4c off posted s.s. price; authorized dealers contracts previous to Aug. 19, 1933, price equal to 3c less than posted s.s. price, plus 1c rental.

*Georgia kerosine has 1c state tax, not included in above prices.

S. O. OHIO

Sohio X-70 Gasoline

Ohio statewide	10.5	5	15.5	17.5	*12.5
Summit county	9.5	5	14.5	17.5	*12.5
Allen, Butler, Champaign, Clark, Darke, Miami, Montgomery and Preble counties:	9.5	5	14.5	15.5	*12.5
Hamilton county	8.5	5	13.5	15.5	*12.5

Renown (Third Grade)

Ohio statewide	10	5	15	16	*12.5
Summit county	9.5	5	14.5	16	*12.5
Allen, Butler, Champaign, Clark, Darke, Miami, Montgomery and Preble counties:	9.5	5	14.5	15.5	*12.5
Hamilton county	8.5	5	13.5	15.5	*12.5

Resellers' Tank Wagon Prices (Allen, Butler, Champaign, Clark, Darke, Hamilton, Miami, Montgomery and Preble counties)

	Undivided Accounts (Exc. of Authorized Agents)	Divided Accounts	Authorized Agents (Exc. of ½c Rental)
Sohio X-70	12.5	13	13
Renown (3rd grade)	12.5	13	13

*Kerosine prices include 1c state tax.

Note: On single deliveries of motor gasolines under 15 gallons, to t.w. consumers, s.s. price applies.

Discounts to contract consumers only: off t.w. price, on deliveries per month: 0 to 3,000 gals., Sohio Ethyl, X-70 and Renown, full t.w. price; 3,000 to 10,000 gals., Ethyl and X-70, 1c; over 10,000 gals., 2c. Renown, 3,000 to 10,000 gals., 9.5c; over 10,000 gals., 1c.

Governmental business (U. S., state, county, municipal and departments thereof) for tank wagon deliveries: effective March 29, 1934, get seller's t.w. price, at time and place of delivery, as posted at seller's plant from or at which delivery is made, subject to a maximum price limitation during the first three months of this contract of 25% more than the posted price. (Price to U. S. Gov.'t is less 4c per gal. state tax, and to state depts., less 1c federal tax) Discounts same as those contained in Official Contract Form CD-1. For service station deliveries: same price basis as for t.w. deliveries, except that prices are posted s.s. prices.

Discounts on kerosine: to dealers and commercial consumers, 2.5c per gal. off t.w. price, any quantity.

S. O. KENTUCKY

Crown Gasoline

	Total T.W.	Total Taxes	Total T.W.	S.S.	Kero-sine T.W.
Lexington, Ky.	12.5	6	18.5	20.5	11.5
Louisville, Ky.	12	6	18	20	11
Paducah, Ky.	12	6	18	20	11
Covington, Ky.	10	6	16	17	11.5
Jackson, Miss.	11.5	7	18.5	20.5	*13
Vicksburg, Miss.	11	7	18	20	*12
Birmingham, Ala.	10	*8	18	20	11
Mobile, Ala.	12.5	*8	20.5	22.5	12
Montgomery, Ala.	12.5	*9	21.5	23.5	*15
Macon, Ga.	13	7	20	22	*14.5
Atlanta, Ga.	12	7	19	22	*14.5
Augusta, Ga.	13	7	20	22	*14.5
Savannah, Ga.	12	7	19	21	*14
Jacksonville, Fla.	9	8	17	20	11.5
Miami, Fla.	10	8	18	20	13.5
Tampa, Fla.	10	8	18	20	12.5
Pensacola, Fla.	8	*9	17	19	13.5

Kyso (Third Grade)

Lexington, Ky.	11	6	17	19	11.5
Louisville, Ky.	10.5	6	16.5	18.5	11
Paducah, Ky.	10.5	6	16.5	18.5	11

(Continued on next page)

S. O. KENTUCKY (Cont'd)

Kyso (Third Grade)

	Total T.W.	Total Taxes	Total T.W.	S.S.	Kero-sine T.W.
Covington, Ky.	8.5	6	14.5	15.5	11.5
Jackson, Miss.	10	7	17	19	*13
Vicksburg, Miss.	9.5	7	16.5	18.5	*12
Birmingham, Ala.	10	*8	18	20	11
Mobile, Ala.	11	*8	19	21	12
Montgomery, Ala.	10.5	*9	19.5	21.5	*15
Atlanta, Ga.	10	7	17	20	*14.5
Augusta, Ga.	11	7	18	20	*14.5
Macon, Ga.	11	7	18	20	*14.5
Pensacola, Fla.	7	*9	16	18	*13.5

Dealer Discount: off posted s.s. price, on Crown and Crown Ethyl gasolines to "undivided" dealers 4c; on Kyso, 3c; to "divided" dealers, Crown and Ethyl, 3.5c, and Kyso, 2.5c, all effective on or about Jan. 1, 1934.

*Taxes, in the tax column is included these city and county gasoline taxes at the following points: Birmingham, 1c city; Mobile, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine price includes ½c city tax.

S. O. INDIANA

Standard Red Crown Gasoline

Chicago, Ill.	10.8	*4	14.8	16.8	8
Decatur, Ill.	10.7	*4	14.7	16.7	10.2
E. St. Louis, Ill.	10.4	*4	14.4	16.4	9.5
Joliet, Ill.	10.8	*4	14.8	16.8	10.2
Peoria, Ill.	10.7	*4	14.7	16.7	10.2
Quincy, Ill.	12.6	*4	16.6	18.6	10
Springfield, Ill.	10.7	*4	14.7	16.7	10.2
Indianapolis, Ind.	11.4	*5	16.4	18.4	†14.2
Evansville, Ind.	11.3	*5	16.3	18.3	†14
South Bend, Ind.	11.7	*5	16.7	18.7	†14.5
Detroit, Michigan	12	4	16	18	10.5
Grand Rapids, Mich.	11.7	4	15.7	17.7	10.2
Saginaw, Mich.	12	4	16	18	10.5
Marquette, Mich.	12	4	16	18	10.8
Green Bay, Wisc.	11.2	5	16.2	18.2	10.2
Madison, Wisc.	11	5	16	18	9.9
Milwaukee, Wisc.	8.5	5	13.5	14.4	9.7
La Crosse, Wisc.	11	5	16	18	10.8
Minneapolis, Minn.	10.9	4	14.9	16.9	10.4
Duluth, Minn.	11.3	4	15.3	17.3	10.4
Mankato, Minn.	11	4	15	17	10.3
Des Moines, Ia.	10.4	4	14.4	16.4	8
Sioux City, Ia.	10.6	4	14.6	16.6	9.7
Davenport, Ia.	10.5	4	14.5	16.5	10.1
Mason City, Ia.	10.7	4	14.7	16.7	10.1
St. Louis, Mo.	10.2	‡3.5	13.7	15.7	8.7
Kansas City, Mo.	9.9	‡4	13.9	15.9	7.5
St. Joseph, Mo.	9.9	‡4	13.9	15.9	8.8
Fargo, N. D.	12	4	16	18	12.1
Grand Forks, N. D.	12.4	4	16.4	18.4	12.4
Minot, N. D.	13.2	4	17.2	19.2	12.1
Pierre, S. D.	13.6	*5	18.6	20.6	11.1
Huron, S. D.	13.8	*5	18.8	20.8	11.4
Wichita, Kansas	9.5	4	13.5	15.5	6
Bartlesville, Okla.	11	5	16	18.5	8.5

Note: Kerosine s.s. prices are generally 3c above normal t.w. price.

Stanolind Gasoline (Third Grade)

Stanolind prices are 1c under normal Red Crown prices shown above, thru territory. Among exceptions are the following points:

E. St. Louis, Ill.	9.4	*4	13.4	15	9.5
Springfield, Ill.	9.5	*4	13.5	15.5	10.2
Detroit, Mich.	10.5	4	14.5	16.5	10.5
Grand Rapids, Mich.	10.2	4	14.2	16.2	10.2
Milwaukee, Wisc.	7	5	12	12.9	9.7
St. Joseph, Mo.	8	‡4	12	14	8.8
Fargo, N. D.	10.7	4	14.7	17	12.1
Wichita, Kan.	8	4	12	14	6

†St. Louis tax includes 0.5c city tax; Kansas City and St. Joseph, 1c city tax. ‡Includes 4c state tax.

*Illinois collects a sales tax of 2%, to cover which Standard charges 0.2c per gallon on gasoline, kerosine and naphtha: this tax is included in t.w. and s.s. columns in above table for gasoline, but not in tax column. South Dakota gasoline and kerosine prices include 0.1c for sales tax. Indiana t.w. and s.s. gasoline prices include 0.2c for chain store tax.

Discounts: to controlled and uncontrolled dealers, undivided gasoline accounts, thru territory, off s.s. price: Ethyl and Red Crown gasoline, 4c; Stanolind, 3c. Divided gasoline accounts get 0.5c less per gallon. In case of lease and agency and AAA accounts, the above discounts include the 0.5c per gal. rental allowance.

Discounts to commercial consumers: effective Feb. 26, 1934, thru territory, including Chicago, on purchases per month, discount off t.w. price; Ethyl and Red Crown, 3000 to 10,000 gals., 1c; Stanolind, 0.5c; over 10,000 gals., Ethyl and Red Crown, 2c; Stanolind, 1c. Purchases under 3,000 gals. monthly made at regular t.w. price; if single deliveries of less than 25 gals. are made regular s.s. price applies.

Tank Wagon, Service Station Markets for Gasoline and Kerosine

Tax column includes 1c federal tax, state gasoline tax; also city and county taxes as indicated in footnotes

These Prices in Effect September 17, 1934, as Posted by Principal Marketing Companies

S. O. NEBRASKA

Standard Red Crown Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Omaha, Neb.	12	5	17	17.4	10
McCook, Neb.	12.7	5	17.7	18.7	10.7
Norfolk, Neb.	12.4	5	17.4	17.9	10.4
North Platte, Neb.	12.8	5	17.8	18.3	10.8
Scottsbluff, Neb.	13.3	5	18.3	18.3	9

Reliance Gasoline (Third Grade)

Reliance gasoline prices are 1.5c below normal Red Crown prices. Following points are among those below this normal differential:

Omaha, Neb.	10.5	5	15.5	15.9	10
McCook, Neb.	11.2	5	16.2	17.7	10 7
Norfolk, Neb.	10.9	5	15.9	16.9	10.4
North Platte, Neb.	11.3	5	16.3	17	10.8
Scottsbluff, Neb.	12	5	17	17.3	9

Discounts to dealers: including rentals under lease and agency agreements, off s.s. price: to undivided accounts, Standard Red Crown and Ethyl gasolines, 4c; Reliance, 3c; to divided accounts Red Crown and Ethyl, 3.5c; Reliance, 2.5c.

Discounts to consumers covered only by form CD-1 Official Commercial Consumer Contract.

S. O. LOUISIANA

Essolene

	Posted Tank Car	Posted Retail T.W.	Taxes	Posted S.S.	Kerosine T.W
Little Rock, Ark.	7.6	14.1	7.5	21	11
Alexandria, La.	7.6	14.1	*7	20.5	*10
Baton Rouge La.	7.7	14.2	6	19.7	*12
New Orleans, La.	7.3	13.8	*7	20	*12
Lake Charles, La.	7.7	14.2	*7	20.7	*12
Shreveport, La.	6.5	13	6	18.5	*10
Lafayette, La.	7.8	14.3	*7	20.8	*12
Bristol, Tenn.	10	16.5	8	22.6	14
Chattanooga, Tenn.	10	16.5	8	22.5	11
Knoxville, Tenn.	10.2	16.7	8	22.5	13.5
Memphis, Tenn.	8.6	15.1	8	22.5	10.5
Nashville, Tenn.	9.5	16	8	22.5	12

*Lake Charles, Alexandria, New Orleans and Lafayette gasoline tax includes 5c state tax, 1c federal tax, and 1c parish tax. Louisiana kerosine prices include 1c state tax.

Price basis to dealers: Divided dealers get dealers price which is 2.5c above tank car; undivided dealers get dealer price, less 0.5c.

Price basis to commercial consumers: Consumer t.w. price at time and place of delivery; consumer t.w. is generally 2c off s.s. price.

Kerosine discount: 2c per gal. off t.w. price to open dealers.

MAGNOLIA PETROLEUM

	T.W.	Taxes	Mobilgas Total T.W.	S.S.	Kerosine T.W.
Muskogee, Okla.	11	5	16	18	7.5
Oklahoma City.	7	5	12	14	8.5
Tulsa, Okla.	11	5	16	18	7.5
Fort Smith, Ark.	11.5	5	16.5	18.5	8
Little Rock, Ark.	11.5	7.5	19	21	9
Texarkana, Ark.	12	*5	17	19	8
Dallas, Tex.	9	5	14	16	8
Fort Worth, Tex.	9	5	14	16	7
Houston, Tex.	11	5	16	18	8.5
San Antonio, Tex.	10	5	15	17	8.5
El Paso, Tex.	13.5	5	18.5	20.5	11

Metro Gasoline (Third Grade)

Muskogee, Okla.	8	5	13	15	7.5
Oklahoma City.	5	5	10	12	8.5
Tulsa, Okla.	8	5	13	15	7.5
Fort Smith, Ark.	10	5	15	17	8
Little Rock, Ark.	10	7.5	17.5	19.5	9
Texarkana, Ark.	6	5	11	13	8
**Dallas, Tex.	4	5	9	11	8
Ft Worth, Texas.	4	5	9	11	7
Houston, Texas.	9	5	14	16	8.5
San Antonio, Tex.	5	5	10	12	8.5
El Paso, Tex.	11	5	16	18	11

*In Texarkana, 4c Texas tax applies; outside Texarkana, 6.5c Arkansas tax applies.

†In Fort Smith, 4c Oklahoma tax applies outside Fort Smith, 6.5c Arkansas tax applies.

Note: Price basis to dealers off s.s. price: in t.w., bulk or bbl. deliveries, on Mobilgas and Ethyl, to 100% dealers, 4c; to divided dealers, 3.5c. On Metro gasoline, to 100% dealers, 3c; to divided dealers, 2.5c.

Price basis to consumers: in t.w., bulk or bbl. deliveries: all grades gasoline invoiced at t.w. price, which is generally 2c less than s.s. price, less quantity discounts, if any, earned under CD-1 contract form, at end of month and at end of year.

**At Dallas, effective Sept. 12, 1934, as temporary measure, all dealers receive an additional 1c discount per gal. on Metro gasoline, and t.w. consumers a sufficient amount to make their total discount equivalent to 4c off s.s., including discounts under CD-1 contracts.

CONTINENTAL OIL

Conoco Bronze Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Denver, Colo.	13	5	18	20	10
Pueblo, Col.	13	5	18	20	11
Grand Junc., Colo.	15.5	5	20.5	22.5	15
Casper, Wyo.	13	5	18	20	11.5
Cheyenne, Wyo.	13	5	18	20	13
Billings, Mont.	16.5	6	22.5	24.5	16.5
Butte, Mont.	15	6	21	23	17.5
Great Falls, Mont.	15.5	6	21.5	23.5	17.5
Helena, Mont.	17	6	23	25	17.5
Salt Lake City, Utah.	11	5	16	18	16
Boise, Ida.	16.5	6	22.5	24.5	18
Twin Falls, Ida.	16.5	6	22.5	24.5	18
Albuquerque, N. M.	11.5	†6.5	18	20	13

Demand (Third Grade)

Denver, Colo.	11	5	16	18	10
Cheyenne, Wyo.	11.5	5	16.5	18.5	13
Helena, Mont.	15	6	21	23	17.5
Salt Lake City, Utah.	9	5	14	16	16
Boise, Ida.	14.5	6	20.5	22.5	18
Albuquerque, N. M.	9.5	†6.5	16	18	13

†Includes city tax of 0.5c.

Discounts: effective March 1, 1934, on gasolines, thru territory, off s.s. price: to "undivided" dealers: Ethyl and Conoco Bronze, 4c; Demand, 3c; to "divided" dealers: Ethyl and Conoco Bronze, 3.5c; Demand, 2.5c.

S. O. CALIFORNIA

Standard Gasoline

San Francisco, Cal.	12.5	4	16.5	18.5	12.5
Los Angeles, Cal.	11.5	4	15.5	17.5	12.5
Fresno, Cal.	13	4	17	19	14
Phoenix, Ariz.	14	6	20	22	†16
Reno, Nev.	14	5	19	21	15.5
Portland, Ore.	13	6	19	21	13.5
Seattle, Wash.	13	6	19	21	13.5
Spokane, Wash.	16	6	22	24	18
Tacoma, Wash.	13	6	19	21	13.5

Flight Gasoline (Third Grade)

San Francisco, Cal.	10.5	4	14.5	16.5	12.5
Los Angeles, Cal.	9.5	4	13.5	15.5	12.5
Fresno, Cal.	11	4	15	17	14
Reno, Nev.	12	5	17	19	15.5
Phoenix, Ariz.	12	6	18	20	†16
Portland, Ore.	11	6	17	19	13.5
Seattle, Wash.	11	6	17	19	13.5
Tacoma, Wash.	11	6	17	19	13.5
Spokane, Wash.	14	6	20	22	18

†Includes 5c state tax.

Discounts: to 100% dealers: on Standard gasoline, beginning June 20, 1934, 2c per gal. off t.w. price; on Flight gasoline, 1c off t.w.

CANADA

Prices of Imperial Oil Ltd.
Per Imperial Gallon, which is 1.2 U. S. Gallons
Imperial Three Star Gasoline

	T.W.	Taxes	Total T.W.	S.S.	Kerosine T.W.
Hamilton, Ont.	*15	6	*21	23.5	17.5
Toronto, Ont.	*15	6	*21	23.5	17.5
Brandon, Man.	23.3	7	30.3	33.3	21.8
Winnipeg, Man.	21.7	7	28.7	31.7	20.2
Regina, Sask.	23	6	29	32	21.5
Saskatoon, Sask.	25.8	6	31.8	34.8	24.3
Edmonton, Alta.	25.2	6	31.2	34.2	23.7
Calgary, Alt.	22.5	6	28.5	31.5	21
Vancouver, B. C.	21	7	*28	30	24
Montreal, Que.	18	8	24	27	17
St. John, N. B.	18	8	26	30	21
Halifax, N. S.	18	8	26	30	21

*No established t.w. price at these points: dealers and consumers' prices based on "so many cents below s.s. prices"; open dealers get 2.5c off.; 100% dealers get 1c additional.

Discount to dealers and A.R.D. Accounts:

On gasoline, effective May 14, 1934: in Maritime Provinces, all dealers get 4c off s.s. price; in all other provinces, open dealers get 3c off s.s. price and 1c additional to 100% accounts.

Aviation Gasoline Prices

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil and Magnolia Pet. Co.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

S. O. NEW JERSEY

Prices in Effect Sept. 17, 1934

(Excluding Taxes)	Tank Car
Bayonne, N. J.	10.5
Baltimore, Md.	10.5
Basis of F.o.b. Jacksonville, Fla.	10.5

COLONIAL BEACON OIL CO.

	Tank Car
Bayonne, N. J. (exclusive of taxes)	10.5

S. O. PENNSYLVANIA

	T.W.	Tax	Total T.W.
Philadelphia, Pa.	15.5	4	19.5
Pittsburgh, Pa.	16	4	20
Altoona, Pa.	16	4	20
Harrisburg, Pa.	15.5	4	19.5

S. O. OHIO

Thru Ohio: (To Commercial Consumers)

Stanavo Ethyl Aviation, (73 Octane, Blue):	15.5	5	20.5

Discounts: to commercial consumers on contract only: 60 octane and above, from 3,000 to 10,000 gals. per month, 1c; over 10,000 gals. per month, 2c.

For delivery on contract to hangar operators reselling: 2c below commercial consumer posted t.w. price.

S. O. INDIANA

Chicago, Ill.	†15.3	4	19.3
Indianapolis, Ind.	15.7	5	20.7
Detroit, Mich.	16	4	20
Milwaukee, Wisc.	15.2	5	20.2
Minneapolis, Minn.	15.9	4	19.9
St. Louis, Mo.	14.2	3	17.2
Kansas City, Mo.	14.7	*4	18.7
Fargo, N. D.	16.9	4	20.9
Huron, S. D.	**16.9	5	21.9
Wichita, Kans.	13.6	4	17.6

*Includes 1c city tax.
**Includes 0.1c to cover sales tax.
†Includes 0.2c cent to cover Ill. 2% sales tax.

S. O. LOUISIANA

(Excluding Taxes)	Tank Car
Basis of F.o.b. Tulsa, Okla.	8.5

MAGNOLIA PETROLEUM

	T.W.	Tax	Total T.W.
Dallas, Tex.	15	5	20

HUMBLE OIL & REFINING CO.

	Tank Car
Baytown, Tex. (exclusive of taxes)	8.7

CONTINENTAL OIL CO.

	T.W.	Tax	Total T.W.
Denver, Colo.	16	5	21
Cheyenne, Wyo.	16	5	21
Helena, Mont.	20	6	26
Salt Lake City, Utah.	14	5	19
Albuquerque, N. M.	16	*6.5	22.5

*Includes city tax of 0.5c.

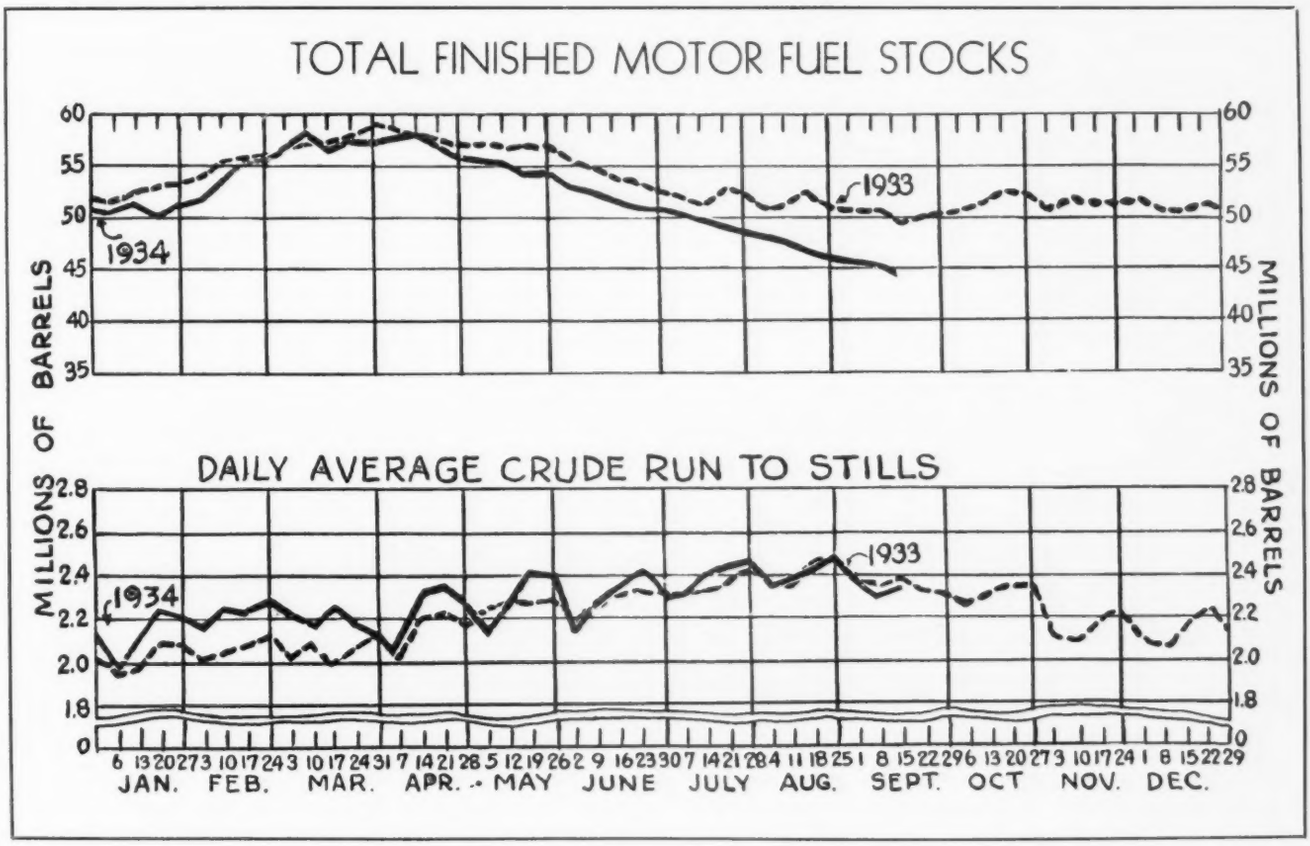
S. O. CALIFORNIA

Phoenix, Ariz.	14.3	6	20.3
Los Angeles, Cal.	12.3	4	16.3
San Francisco, Cal.	12.2	4	16.2
Reno, Nev.	13.5	5	18.5
Portland, Ore.	14.7	6	20.7
Seattle, Wash.	15.4	6	21.4
Spokane, Wash.	17	6	23

Note: Above prices are for deliveries by tank truck or in iron barrels in quantities of 100 gallons or more. For quantities less than 100 gallons, add 2c per gallon.

(Continued on page 60)

U. S. Crude Runs and Gasoline Stocks as Reported Weekly by A. P. I.



Bulk Motor Fuel Stocks Decrease 620,000 Barrels

By Telegraph

NEW YORK, Sept. 18

FOLLOWING a decrease of 578,000 barrels in bulk motor fuel stocks the previous week, these stocks declined 620,000 barrels the week ended Sept. 15, to 54,679,000 barrels, according to reports gathered by the American Petroleum Institute from plants with 89.7 per cent of the country's still capacity.

Crude runs to stills rose 108,000 barrels, to 2,340,000 barrels daily average. Refiners in Indiana-Illinois-Kentucky increased their runs 30,000 barrels, to 341,000 barrels daily. California and Texas refiners increased runs considerably, while East Coast plants cut runs 28,000 barrels.

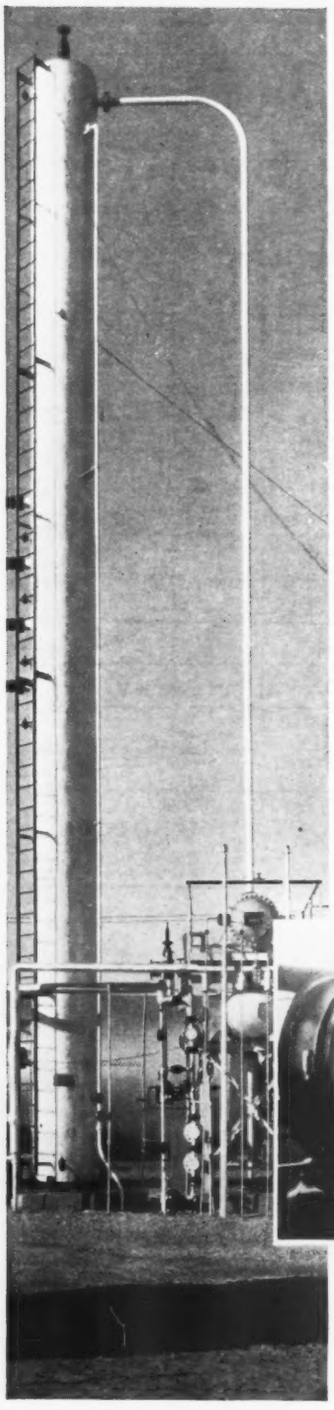
Stocks of finished motor fuel declined 553,000 barrels, standing at 44,770,000 barrels on Sept. 15. The largest decrease was on the East Coast where stocks were reduced nearly 400,000 barrels. Appalachian plants reduced stocks 89,000 barrels and Louisiana Gulf 76,000 barrels. Stocks of finished motor fuels gained in two districts, these being Texas Gulf, with a gain of 168,000 barrels, and North Louisiana-Arkansas, with a gain of 18,000 barrels.

Refinery stocks of motor fuel declined 145,000 barrels, to 27,893,000 barrels. In-transit and terminal stocks declined 537,000 barrels, to 16,877,000 barrels and other motor fuel stocks declined 20,000 barrels, to 4,280,000 barrels. A gain of 82,000 barrels was reported in stocks of unfinished gasoline, which stood at 5,629,000 barrels on Sept. 15.

Current Refinery Operations

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Total Finished Motor Fuel*		Total Finished Gas & Fuel Oil		Cracked % Total Capacity Reporting	Gasoline Production Daily Av. Production (Barrels) Week Ended	
		Sept. 15	Sept. 8	Sept. 15	Sept. 8	Sept. 15	Sept. 8	Sept. 15	Sept. 8		Sept. 15	Sept. 8
East Coast	100.0	433,000	461,000	74.4	79.2	13,504	13,898	14,071	13,616	95.0	75,000	73,000
Appalachian	93.3	101,000	93,000	72.1	66.4	1,399	1,488	1,450	1,430	100.0	26,000	28,000
Ind., Ill., Ky.	94.6	341,000	311,000	80.8	73.7	6,799	6,849	4,949	4,811	95.1	99,000	98,000
Okla., Kans., Mo.	83.7	230,000	221,000	59.6	57.3	4,327	4,374	3,755	3,771	93.0	65,000	61,000
Inland Texas	47.6	105,000	85,000	62.9	50.9	1,057	1,084	1,551	1,554	80.5	23,000	23,000
Texas Gulf	97.5	524,000	491,000	94.9	88.9	3,520	3,352	10,794	10,509	99.2	102,000	101,000
La. Gulf	96.4	92,000	93,000	56.8	57.4	1,444	1,520	2,527	2,458	100.0	15,000	14,000
No. La., Ark.	83.7	48,000	45,000	62.3	58.4	248	230	603	601	92.7	8,000	9,000
Rocky Mt.	66.7	45,000	40,000	70.3	62.5	615	643	579	589	91.3	12,000	15,000
California	96.9	421,000	392,000	51.2	47.7	11,857	11,885	75,623	76,001	100.0	53,000	57,000
TOTAL	89.7	2,340,000	2,232,000	69.4	66.2	44,770	45,323	115,902	115,340	95.6	478,000	479,000

*Includes stocks at refineries, in bulk terminals, pipe lines and in transit.



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Tank Wagon Markets

(Continued from page 58)

Naphtha Prices

Prices in Effect Sept. 17, 1934
(In Tank Wagon or Steel Barrels; in Cents per Gallon)

	Mineral Spirits	V.M.&P. Naphtha	Cleaner Naphtha	*Solvent
Altoona, Pa.	....	....	....	17
Baltimore	....	....	....	***14.5
Boston	17	17	16	17
Bridgeport	....	....	....	13.5
Buffalo (net)	....	....	....	14
Chicago	‡13.9	‡15.9	‡15	‡18
Detroit	**17.4	**21	**18.5	17.5
Kansas City	14	15.5	16.3	19.3
Lancaster, Pa.	....	....	....	17
Milwaukee	19.5	‡21	21.8	18.5
Minneapolis	**19.8	**21.3	**22.1	††15.9
Newark, N. J.	....	....	....	13
New York City	13	13	15	13
Philadelphia	13.5	15	16	13.5
Providence	....	....	....	14
Rochester (net)	....	....	....	16
St. Louis	14.7	16.2	17	13
Syracuse	....	....	....	16

Petroleum Spirits (Solvent)

In Tank Cars (F.o.b. refinery or seaboard terminal)

New York Harbor	9.5
Philadelphia district	9.5
Providence	9.5

*In the East, prices apply on product generally known as Petroleum Spirits; in the middlewest, prices apply on Stanosol (S. O. Indiana grade of Stoddard Solvent).
†Includes 4c state tax.
**Includes 3c state tax.
‡Includes 0.2c to cover Illinois 2% sales tax.
††1c higher for less than 100 gals.
***2c discount allowed if under contract; 3c allowed on 200 gals. or more, with 1c premium for steel bbls.
Note: 2c off above t.w. prices to large buyers in some instances.

Heating Oil

Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

Prices in Effect Sept. 17, 1934

	No. 1	No. 2	No. 3	No. 4
S. O. New Jersey				
Newark, N. J.	8.5	7	-- --	7
Atlantic City, N. J.	8.5	7	-- --	7
Baltimore, Md.	8.5	7	-- --	7
Washington, D. C.	8.75	7.25	-- --	7.25
S. O. New York				
New York City	8.5	7	7	6.5
Albany, N. Y.	8.75	7.25	7.25	6.75
Rochester, N. Y.	9.25	7.75	7	-- --
Boston, Mass.	8.5	7	7	7
Augusta, Me.	9.25	7	7	7
Manchester, N. H.	8.75	7.25	7.25	7.25
Burlington, Vt.	9.75	8.25	8.25	8.25
New Haven, Conn.	8.5	7	7	6.5
Providence, R. I.	8	7	7	6.5
	No. 1	**No. 2**	**No. 3**	**No. 4**
Atlantic Refining				
Philadelphia, Pa.	8.5	7	....	6.5
Allentown, Pa.	9	7.5	7.5	7.5
Wilmington, Del.	8.5	7	-- --	6.5
Springfield, Mass.	8.75	7.25	-- --	7.25
Worcester, Mass.	8.75	7.25	-- --	7.25
Hartford, Conn.	8.5	7	-- --	7
S. O. Ohio				
Ohio Statewide	8	7.75	7.50	7.25

Note: S. O. Ohio prices are for hose dumps; bucket dumps are 0.5c per gallon higher.

S. O. Indiana
Stanolex Fuel Oil No. 1

Chicago	6.75
Indianapolis, Ind	*12.7
Detroit, Mich.	9
Madison, Wis.	8.4
Minneapolis, Minn.	8.9
Sioux City, Ia.	8.2
St. Louis, Mo.	7.8
Kansas City, Mo.	7.7

*Includes state tax of 4c.

Discounts: at Chicago above price applies on 150 gals. or more; 100 to 149 gals., 0.5c higher, under 100 gals., 1.5c higher. Indianapolis and Detroit 1c off t.w. price for deliveries of 100 gals. and over; at St. Louis, 1c off for 50 gal. dumps and over; at other above points, 1c off t.w. price for deliveries 150 gals. and over.

Refiners' & Compounders' Supplies

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	Sept. 17	Sept. 10
Soda Ash light 58..bags, cwt.	$1.23-1.30	$1.23-1.30
Silicate of Soda 60 deg. drums .....cwt.	$1.75-1.90	$1.75-1.90
Silicate of Soda 40 deg. drums .....cwt.	$0.70-1.00	$0.70-1.00
Sal Soda wks.....	$1.00-1.10	$1.00-1.10
Caustic Soda 76% solid..cwt.	$2.60	$2.60
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton.....$	11.00-12.50	$11.00-12.50
Sulfur, flowers of.....cwt.	$2.50-3.40	$2.50-3.40
Liquid Chlorine, tank cars, wks.....lb.	$1.85-2.25	$1.85-2.25

Compounders' Supplies

Vegetable Oils		
Linseed carloads, spot.....lb.	8.90	9.10-9.30
Tank spot.....	9.10	9.30-9.50
Soya Bean, Tank, coast...lb.	7.00	7.00
Oleic Acid		
Distilled, tanks.....lb.	6.50	6.50
Distilled, bbls.....lb.	7.375	7.375
Saponified, tanks.....lb.	7.00	7.00
Saponified, bbls.....lb.	7.50	7.50
Lard Oils		
Prime Winter Strained....lb.	9.00	9.00
Extra Winter Strained.....lb.	8.25	8.25
Extra No. 1.....lb.	7.75	7.75
No. 1.....lb.	7.25	7.25
No. 2.....lb.	6.875	6.875
Tallow oil.....lb.	7.50	7.50
Neatsfoot Oil		
Pure, bbls.....lb.	12.75	11.75
Extra, bbls.....lb.	8.00	8.00
No. 1 bbls.....lb.	7.75	7.75
Cold test, 20 degrees.....lb.	16.00	16.00
Naval Stores		
Steam distilled turpentine, N. Y.....gal.	46.50-47.00	46.50-47.00
Steam distilled turpentine, Savannah .....gal.	41.00	41.00
Gum turpentine, N. Y...gal.	48.00	48.00
Gum turpentine, f.o.b. cars Savannah .....gal.	42.00	43.00
Wood Rosin, N. Y.....bbl.	$5.10	$5.10
Wood Rosin F, Savn'h..bbl.	$4.15	$4.15
Gum Rosin B, N. Y.....bbl.	$5.35	$5.35
Gum Rosin B, f.o.b. cars Savannah .....bbl.	$4.10	$4.10
Rosin oil, pure.....gal.	48	48
Rosin oil, compounded...gal.	59	59
Pine Tar		
Kiln burnt.....	$12.00-12.50	$12.00-12.50
Retort .....bbl.	$12.50	$12.50
Alcohol		
Denatured Formula 5, per gal., in bbls., car lots.....	34-35	34-35

Barkdale Joins Western

TULSA—Mrs. Molly Reese Burks, who since 1928 has been assistant to R. N. Lambert, manager of the Tulsa office of the Western Oil & Fuel Co., has resigned, effective Oct. 1.

Howard Barkdale, formerly with Spartan Refining Co., Shreveport, La., will succeed Mrs. Burks in the Tulsa office.

Cleaner

Magnus Chemical Co., Garwood, N. J., has just put out a new product known as "Magnusol" for cleaning grease and oil from metal. The solvent is applied on large equipment by painting or spraying followed by rinse with pressure hose or stream of water. Smaller articles may be dipped in a solution with kerosine.

ADDITIONS! . .

—Complete the Line of Jenkins Bronze Gates

New Traveling Spindle Valves offered for various pressures

Now, when you want Bronze Gate Valves with a Traveling Spindle you can specify "Jenkins". New additions to the Jenkins line include this type of Gate, with both screwed and flanged ends, for various working pressures. Fig. Nos. 47 and 48 are for 125 lbs. steam or 200 lbs. Oil, Water, Gas. Fig. Nos. 49 and 50 handle 150 lbs. steam or 225 lbs. Oil, Water, Gas.

These new Gates fully conform to Jenkins standards and have many fine features, which assure long and satisfactory service. All bonnet threads are in contact with the spindle *at all times.* An extra large stuffing box holds more packing. A double-faced solid wedge and precision machined seating surfaces assure tight closure. Wedge is entirely out of the line of flow when valve is fully open.

You can meet practically any need from the complete Jenkins Bronze Gate Line—Data on recent additions to the line will be found in a supplement to the Jenkins No. 23 Catalog which will soon be ready for distribution. Write for it to be sure that your name is on our list.

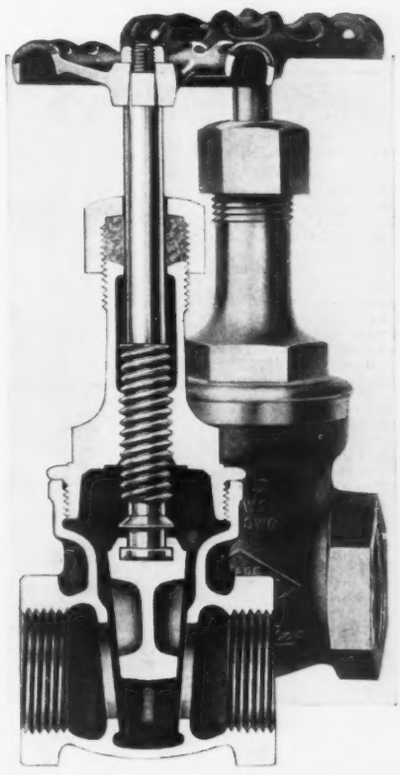

Fig. 49—150-lb. Bronze Gate with Traveling Spindle

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Complete Seaboard Markets

Prices on this page do not include federal tax levied on some products

Eastern Domestic Markets

(Prices for tank car lots (unless otherwise noted), f.o.b. refinery or Seaboard terminal, representing majority of sales and quotations to jobbers and/or consumers. Florida and S. Carolina inspection tax not included.)

Prices—Sept. 17	Sept. 10	Sept. 4
U. S. MOTOR GASOLINE: 59 Octane and Below:		
New York harbor..... 5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
New York Harbor, barges 5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
Philadelphia district..... 5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Philadelphia dist., barges 5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Baltimore district..... 5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Norfolk district..... 6.25	6.25	6.25
Wilmington, N.C., district 6.25	6.25	6.25
Charleston, S. C., district 6.25	6.25	6.25
Savannah district..... 6.50	6.50	6.50
Jacksonville district..... 6.50	6.50	6.50
Portland district..... 6.50	6.50	6.50
Boston district..... 6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Providence district..... 6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
MOTOR GASOLINE: 60-64 Octane Number		
New York harbor..... 6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
New York harbor, barges 5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
Philadelphia district..... 6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Philadelphia dist., barges 6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Baltimore district..... 6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Norfolk district..... 6.50	6.50	6.50
Wilmington, N. C., district 6.50	6.50	6.50
Charleston district..... 6.50	6.50	6.50
Savannah district..... 6.75	6.75	6.75
Jacksonville district..... 6.75	6.75	6.75
Portland district..... 6.75	6.75	6.75
Boston district..... 6.25 – 6.70	6.25 – 6.70	6.25 – 6.70
Providence district..... 6.15 – 6.65	6.15 – 6.65	6.15 – 6.65
MOTOR GASOLINE: 65 Octane Number and Above		
New York harbor..... 6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
New York harbor, barges 6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Philadelphia district..... 6.25 – 6.75	6.25 – 6.75	6.25 – 6.75
Philadelphia dist., barges 6.25 – 6.75	6.25 – 6.75	6.25 – 6.75
Baltimore district..... 6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
Norfolk district..... 6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Wilmington, N. C., district 6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Charleston district..... 6.75 – 7.00	6.75 – 7.00	6.75 – 7.00
Savannah district..... 7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
Jacksonville district..... 7.00 – 7.25	7.00 – 7.25	7.00 – 7.25
Portland district..... 7.00	7.00	7.00
Boston district..... 6.50 – 6.75	6.50 – 6.75	6.50 – 6.75
Providence district..... 6.50 – 6.75	6.50 – 6.75	6.50 – 6.75

WATER WHITE KEROSINE—Prices—Sept. 17

New York harbor....	5.25	Wilmington, N. C....	5.50
New York harbor, barges.....	5.00	Charleston district...	5.50
Philadelphia district..	5.25 – 5.50	Savannah district....	5.50
Philadelphia district, barges.....	5.25 – 5.50	Jacksonville district..	5.50
Baltimore district....	5.25 – 5.50	Portland district.....	5.50
Norfolk district.....	5.50	Boston district.....	5.25
		Providence district...	5.25

HEATING OILS: Prices—Sept. 17	New York harbor	New York harbor, barges	Philadelphia district
No. 1.....	5.25 – 5.50	5.00 – 5.50	5.25 – 5.50
No. 2.....	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
No. 3.....	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
No. 4.....	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
No. 5 (per barrel)....	$1.50	.....	$1.50
No. 6 (per barrel)....	$1.30	.....	$1.30

	Baltimore district	Boston district	Providence district
No. 1.....	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
No. 2.....	5.00	5.00	5.00
No. 3.....	5.00	5.00	.....
No. 4.....	5.00	5.00	.....
No. 5 (per barrel)....	$1.50	$1.60	.....
No. 6 (per barrel)....	$1.30	$1.30	.....

Providence dist., barges:	Sept. 17	Sept. 10	Sept. 4
No. 1.....	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
No. 2.....	4.75	4.75	4.75

Prices—Sept. 17	Bunker Oil Grade C	†Diesel Oil Ships' Bunker	Gas Oil 28-34 Gravity
New York harbor.....	*$1.30	*$1.95	4.50 – 5.00
Philadelphia district.....	*$1.30	*$1.95	4.50 – 5.00
Baltimore district.....	*$1.30	*$1.95	4.50 – 5.00
Norfolk district.....	*$1.30	*$1.95	....
Charleston district.....	$1.25	$1.95	....
Savannah district.....	$1.25	$1.95	....
Jacksonville district.....	*$1.25	$1.95	....
Portland district.....	$1.40	$2.05	....
Boston district.....	*$1.30	*$1.95	....
Providence district.....	$1.30	$1.95	....

*Lighterage for bunker oil, 5c per bbl. additional; for Diesel oil, 6.5c per bbl. additional. †Diesel oil at New York shore plants is 4.75c per gal. beginning May 28; Savannah and Jacksonville, 4.75c, beginning April 23.

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

Prices Sept. 17	Sept. 10	Sept. 4
53-55 U. S. Motor..... 4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
400 e.p. blend 65 Octane and above..... 4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
Gas oil, 30-34 per bbl..... $1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
Diesel oil, 27 plus, per bbl. $1.05 –$1.10	$1.05 –$1.10	$1.05 –$1.10
Grade C bunker oil, for ships bunkers, per bbl. $0.825–$0.85	$0.825–$0.85	$0.825–$0.85
Grade C bunker oil, in cargoes, per bbl..... $0.65 –$0.67	$0.65 –$0.67	$0.65 –$0.67
38-40, w.w. hero., 150 fire 4.50 – 4.75	4.50 – 4.75	4.50 – 4.75
Cased Goods		
Gasoline, U. S. Motor.... $1.50 –$1.65	$1.50 –$1.65	$1.50 –$1.65
Gasoline, 400 e.p. blend.. $1.60 –$1.75	$1.60 –$1.75	$1.60 –$1.75
38-40 w.w. hero., 150 fire $1.20 –$1.30	$1.20 –$1.30	$1.20 –$1.30
Kerosine, prime white.... $1.15 –$1.20	$1.15 –$1.20	$1.15 –$1.20

New York Export Markets

(Prices in cents per gallon in barrels, F. a. s. New York)

CYLINDER OILS (Pennsylvania Products)	Sept. 17	Sept. 10	Sept. 4
Bright stock, No. 8 color	27.50 –27.75	27.50 –27.75	27.50 –27.75
Bright stock, No. 6½ color diluted.....	26.50 –27.00	26.50 –27.00	26.50 –27.00
Neutral 200 No. 3 color..	34.50 –35.00	34.50 –35.00	34.50 –35.00
Neutral 150 No. 3 color..	28.00 –28.50	28.00 –28.50	28.00 –28.50
600 Warren E filtered....	22.50 –23.00	22.25 –23.00	22.25 –23.00
600 stm. refd. unfiltered..	19.00 –19.50	19.25 –19.50	19.25 –19.50
650 stm. refd. unfiltered..	21.50 –22.00	21.75 –22.00	21.75 –22.00
600 flash, steam refined..	22.50 –23.00	22.75 –23.00	22.75 –23.00
630 flash, steam refined...	26.00 –26.50	26.00 –26.50	26.00 –26.50

Wax Market

(Prices in cents per pound. Tests made by A. S. T. M. method with melting points converted into A. M. P. by adding 3° F. Export prices are f. a. s. carload lots. Domestic prices are f. o. b. refineries in New York and New Orleans harbor district, in bags, carload lots, with 0.2c discount allowed for shipment in bulk).

Prices—Sept. 17	New York Domestic	New York Export	New Orleans Domestic	New Orleans Export
124-6 Y.C. scale....	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125
122-4 W.C. scale...	3.125– 3.25	3.125– 3.25	3.125– 3.25	3.125– 3.25
124-6 W.C. scale...	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
123-5 Fully refined..	4.70	4.625	4.70	4.625
125-7 Fully refined..	4.80	4.75	4.80	4.75
128-30 Fully refined	5.05	5.00	5.05	5.00
130-2 Fully refined..	5.20	5.25	5.20	5.25
133-5 Fully refined..	5.80	5.75	5.80	5.75
135-7 Fully refined..	6.05	6.00	....	....

Gulf Coast Bulk Market

(Prices are f. o. b. Gulf oil terminals representing sellers' opinions except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

Prices—Sept. 17	Sept.10	Sept. 4
MOTOR GASOLINE: For Domestic Shipment		
59 octane and below..... 5.00	4.75 – 5.00	4.75 – 5.00
60-64 octane number..... 5.25	5.00 – 5.25	5.00 – 5.25
65 octane and above..... 5.50	5.25 – 5.50	5.25 – 5.50
HEATING OILS		
No. 1 Heating oil..... 4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
No. 2 Heating oil..... 3.625– 3.875	3.625– 3.875	3.625– 3.875
No. 4 Heating oil..... 3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
KEROSINE		
41-43 w.w..... 4.125– 4.25	4.25 – 4.50	4.25 – 4.50
For Export Shipment		
GASOLINE		
U. S. Motor gasoline..... 4.25 – 4.375	4.25 – 4.375	4.125– 4.25
60-62, 400 e.p. gasoline... 4.375– 4.50	4.375– 4.50	4.25 – 4.375
61-63, 390 e.p. gasoline... 4.50 – 4.625	4.50 – 4.625	4.375– 4.50
64-66, 375 e.p. gasoline... 4.50 – 4.75	4.625– 4.875	4.50 – 4.625
U. S. Motor, cases (cargoes)..... $1.20 –$1.25	$1.20 –$1.25	$1.20 –$1.25
64-66, 375 e.p. cases (cargoes)..... $1.25 –$1.30	$1.25 –$1.30	$1.25 –$1.30
KEROSINE		
44 water white..... 4.25 – 4.375	4.25 – 4.375	4.25 – 4.375
41-43 water white..... 4.125– 4.25	4.125– 4.25	4.125– 4.25
41-43 prime white..... 4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
W.W., cases (cargoes)... $1.15 –$1.20	$1.15 –$1.20	$1.15 –$1.20
P.W., cases (cargoes).... $1.10 –$1.15	$1.10 –$1.15	$1.10 –$1.15
For Domestic and/or Export Shipment		
GAS AND BUNKER OILS		
*26-30 translucent gas oil 3.375– 3.50	3.375– 3.50	3.375– 3.50
*30 plus translucent gas oil 3.50 – 3.625	3.50 – 3.625	3.50 – 3.625
**30 plus transp. gas oil.. 3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
Diesel Oil ships' bunkers †$1.80	†$1.80	†$1.80
Grade C bunker oil, for ships' bunkers, per bbl. †$1.15	†$1.15	†$1.15
Grade C bunker oil, per bbl. in cargoes..... $0.80 –$0.85	$0.80 –$0.85	$0.80 –$0.85

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl. additional.
**Less than ½ of 1% sulphur; Maximum No. 3 color.

MEXICAN CRUDE AND BUNKER OILS (f.o.b. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid, per bbl....	$1.00	$1.00	$1.00
Grade C bunker oil, ships' bunkers, taxes paid, per bbl.....	$1.05	$1.05	$1.05

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100° F. cold test 0) (Tanker, f.o.b. Gulf oil terminals.)

100 vis. No. 3 unfilt. pale	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
200 vis. No. 3 unfilt. pale	6.375– 7.00	6.375– 7.00	6.375– 7.00
300 vis. No. 3 unfilt. pale	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
500 vis. No. 3½ unfilt. pale	7.875– 8.50	7.875– 8.50	7.875– 8.50
750 vis. No. 4 unfilt. pale	8.75 – 9.50	8.75 – 9.50	8.75 – 9.50
1200 vis. No. 4 unfilt. pale	9.25 –10.00	9.25 –10.00	9.25 –10.00
2000 vis. No. 4 unfilt. pale	9.50 –10.25	9.50 –10.25	9.50 –10.25
100 vis. No. 5-6 red oil..	5.50 – 6.00	5.50 – 6.00	5.50 – 6.00
200 vis. No. 5-6 red oil....	6.125– 6.75	6.125– 6.75	6.125– 6.75
300 vis. No. 5-6 red oil....	6.375– 6.75	6.375– 6.75	6.375– 6.75
500 vis. No. 5-6 red oil....	7.625– 8.00	7.625– 8.00	7.625– 8.00
750 vis. No. 5-6 red oil....	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
1200 vis. No. 5-6 red oil..	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
2000 vis. No. 5-6 red oil..	9.75 –10.25	9.75 –10.25	9.75 –10.25

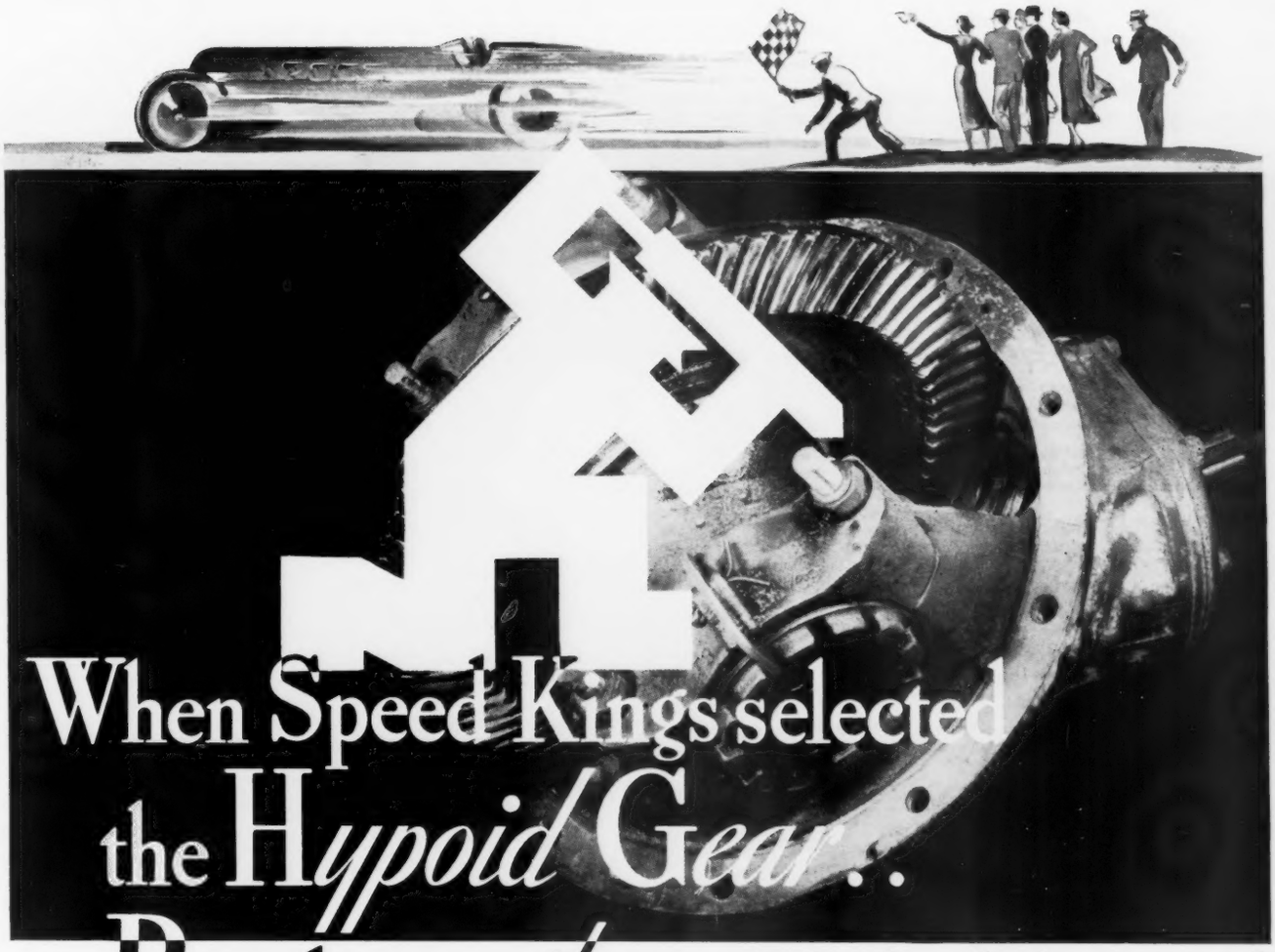
Note: Red oil pfices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to U. S. ports, cents per barrel)

	Crude &/or Fuel		Refined Oil &/or Spirits	
Rates—Sept. 17	Last Paid	Owners Ask	Last Paid	Owners Ask
Calif.-U.K./Continent*..	12/6	18/-19/	19/	19/-21/
Gulf.-U.K./Continent*..	9/	9/-10/	11/6	11/6-12/6
Calif.-N. Atlantic..... (not E. of N. Y.)	45c	50-55c	55c	50-55c
Gulf-N. Atlantic**..... (not E. of N. Y.)	17c	16-17c	17.5c	17-18c

*Continental ports in range between Bordeaux and Hamburg, both inclusive
**Venezuela loading same rate; Tampico 2c to 3c per bbl. additional.



When Speed Kings selected the *Hypoid Gear*...

Penola was *there* with the lubricant!

When racing drivers shatter speed records and blaze the way to new automotive triumphs, the right lubricants are of supreme importance.

The hypoid gear differential won quick favor with the pace-makers because it lowered center of gravity... supplied strong, smooth power transmission. But lubricant after lubricant failed to meet its critical requirements. A film was needed five times as tough as any known to science.

Then Penola Compound, the new extreme pressure lubricant, solved the problem. Its super-strong film alone was able to withstand the terrific friction and pressure between the hypoid and ring gears. A *special* lubricant for a *special* purpose, Penola Compound met the mechanical specifications of the job accurately and adequately.

That's the secret of all Penola Lubricants. Products of the world's largest manufacturers of *specialized* lubricants... they are *specially engineered* for the tasks they must perform. Little wonder that 65,000 service stations throughout America now standardize on them!

You simply can't afford to take chances with hit-and-miss products when Penola Lubricants cost no more. Write for 1934 prices of standard and special specification lubricants. And remember—Penola Lubricants are sold only to oil companies and jobbers.

•

Address correspondence to Penola Inc., 30 Rockefeller Plaza, New York City.

PENOLA LUBRICANTS

PENOLA GEAR LUBRICANT—in summer and winter viscosities, for transmission and rear axle lubrication where E. P. lubricants are unnecessary or gear boxes not oil-tight.

PENOLA PRESSURE LUBRICANTS—in three grades, Fluid, Regular, and Heavy-duty—proper consistency for year-round application by all types of hand or power-pressure guns.

PENOLA COMPOUND—The Extreme Pressure Lubricant—for hypoid and worm gears, free-wheeling assemblies and all types of transmissions and differentials—the year round.

PENOLA WHEEL BEARING LUBRICANT—high melting point. FIBROUS, ANHYDROUS—won't cake, harden or separate under high temperatures and speeds. Stays on bearings and out of brake linings.

PENOLA UNIVERSAL LUBRICANTS—for all grease-type and oil-type universal joints—approved by leading manufacturers.

PENOLA WATERPROOF LUBRICANT—does not dissolve, wash away or get into circulating system—prevents leaks; protects pumps.

PENOLA EXPEE COMPOUND—the lubricant specially developed for high-speed hypoid drives.

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(formerly Pennsylvania Lubricating Company)

Grease works operated at

Baltimore, Md. • Baton Rouge, La. • Eldorado, Kan. • Pittsburgh, Pa.

Crude Oil Prices (In Effect Sept. 17, 1934)

Crude prices for the whole year in OIL PRICE HANDBOOK published annually
(Prices are per barrel of 42 U. S. Gallons at the well; A. P. I. Gravity)

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency
(Effective May 1, 1934, except Corning effective Oct. 2, 1933)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$2.22
Penna. Grade Oil in Eureka Pipe Lines (West Virginia).....$2.17
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....$2.07
Corning Oil in Buckeye Pipe Lines (Ohio)..$1.32
†For Macksburg oil run previous to March 1 1932, $2.02, effective May 1, 1934.

Posted by Other Companies

Tide Water Pipe Co., Ltd.:
Bradford-Alleghany district (Penna. and N. Y.) (Effective May 1, 1934).....$2.55
*The Pennzoil Co.: (Effective May 1, 1934)
Penna. Grade Oil in National Transit Lines*$2.47
Ashland Oil & Transportation Co.: (Effective Sept. 10, 1933):
Somerset Oil in Ashland Lines (Ky.).....$1.23
*The Pennzoil Co. posts $2.47 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in their districts range down to $2.42 per bbl. at wells.

MICHIGAN

(Posted by Pure Oil Co.)

Midland, Midland County (Sept. 30, 1933)..$1.02

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

(Effective Sept. 29, 1933)		(Effective May 26, 1934)	
Lima	$1.30	West. Kentucky	$1.08
(Effective Jan. 5, 1934)			
Princeton	$1.13	Illinois	$1.13

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Western Ontario

(Effective 7 a. m. Sept. 9, 1933)

Petrolia.....$2.10
Oil Springs.....$2.17

Alberta

Turner Valley
(Prices f.o.b. field tankage)

Crude: (Effective 7 a.m. Dec. 9, 1933)		Naphtha: (Effective 7 a.m. May 21, 1934)	
40-44.9	$1.50	†Clear	$2.31
45-49.9	2.07	†Discolored	$2.55
(Effective 7 a.m. May 21, 1934)			
50 and above	$2.19		

†Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°, Discolored naphtha: same specifications as for clear naphtha except color.

MID-CONTINENT

Prices of Stanolind Crude Oil Purchasing Co.
(Effective 7 a. m. Sept. 29, 1933)

(In Oklahoma-Kansas)	(In North-North Central Texas)
Below 29.....$0.84	$0.79
29-29.9..... 0.86	0.81
30-30.9..... 0.88	0.83
31-31.9..... 0.90	0.85
32-32.9..... 0.92	0.87
33-33.9..... 0.94	0.89
34-34.9..... 0.96	0.91
35-35.9..... 0.98	0.93
36-36.9..... 1.00	0.95
37-37.9..... 1.02	0.97
38-38.9..... 1.04	0.99
39-39.9..... 1.06	1.01
40 and above..... 1.08	1.03

Above Stanolind prices met as follows:

Sept. 29, by The Texas Co. in Oklahoma, and in North and North Central Texas; Continental Oil in all three states; by Empire, White Eagle and Gypsy (Gulf).

See also Carter Oil, Magnolia, Humble schedules below and footnotes under Carter table.

Prices of Carter Oil Co.
(In Oklahoma and Kansas)
(Effective 7 a. m. Sept. 29, 1933)

Below 25	$0.76	33-33.9	$0.94
25-25.9	0.78	34-34.9	0.96
26-26.9	0.80	35-35.9	0.98
27-27.9	0.82	36-36.9	1.00
28-28.9	0.84	37-37.9	1.02
29-29.9	0.86	38-38.9	1.04
30-30.9	0.88	39-39.9	1.06
31-31.9	0.90	40 and above	1.08
32-32.9	0.92		

Sept. 29, Carter gravity and price schedule met in Oklahoma-Kansas by Sinclair-Prairie, and Humble price schedule met in North-North Central Texas except that Sinclair-Prairie posts five lower grades down to below 25, with 2c differential for each. Same day, Shell Petroleum met Carter in full in Oklahoma-Kansas.

Prices in Magnolia Petroleum Co.
(Effective 7 a. m. Sept. 29, 1933)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.76 and ending with 40 & above, at $1.08.

In Texas: North and North Central, including Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; and in Central Texas, including Mexia, Wortham, and Panola county, same gravity and price schedule as Stanolind in Texas, which see below, beginning with below 29 at $0.79, and ending with 40 & above, at $1.03.

MID-CONTINENT (Continued)

Prices of Humble Oil & Refining Co.
(*In North, North Central and Central Texas
(Effective 7 a.m. Sept. 29, 1933)

Below 29	$0.79	35-35.9	$0.93
29-29.9	0.81	36-36.9	0.95
30-30.9	0.83	37-37.9	0.97
31-31.9	0.85	38-38.9	0.99
32-32.9	0.87	39-39.9	1.01
33-33.9	0.89	40 and above	1.03
34-34.9	0.91		

*Including North Texas, Ranger, Mexia, Powell Boggy Creek, Richland, Wortham, Currie and Moran fields.

PANHANDLE TEXAS

Humble Oil & Refining Co.
(Effective 7 a.m. Sept. 29, 1933)

	Gray County	Carson-Hutchinson
Below 35	$0.79	$0.69
35-35.9	0.81	0.71
36-36.9	0.83	0.73
37-37.9	0.85	0.75
38-38.9	0.87	0.77
39-39.9	0.89	0.79
40 & above	0.91	0.81

Sept. 29, above prices met by Sinclair-Prairie, Magnolia and The Texas Co. in the entire area, also by Continental Oil in Carson-Hutchinson.

EAST TEXAS

(Effective 7 a.m. Sept. 29, 1933)

Stanolind, Humble, Sinclair-Prairie, Texas and Magnolia.....$1.00

WEST TEXAS and NEW MEXICO

Humble Oil & Refining Co.
(Effective 7 a.m. Sept. 29, 1933)

Ector, Pecos and Winkler Counties, W. Texas and Lea Co., N. M.....$0.75
Crane, Upton, Crocket, Howard and Glasscock county, W. Tex.....$0.70
Sept. 29, Magnolia met in Crane, Upton, Howard, Glasscock, Mitchell and Winkler. Sept. 29, Texas Co. met Humble in Winkler, Crane, Upton and Lea counties; Stanolind Oil & Gas met in Hendrich field, Winkler county and posted in Marion county Tex. below 25 at $0.63, plus 2c differential to 40 & above at $0.95.

SOUTH and SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)
(Effective 7 a.m. Sept. 29, 1933)

Darst Creek	$0.87	Mirando	$0.80
Salt Flat	0.87	Pettus	1.05
Saxet	0.85	Tomball	1.15

Sept. 30, The Texas Co. met Humble in Darst Creek. On Sept. 29 it posted $0.80 in Duval county and $0.85 in Saxet-Greta.

(Continued on next page)

CALIFORNIA CRUDE

Standard Oil Co. of California

All gravities above those quoted take highest price offered in the field)
Effective 7 a. m. Sept. 6, 1933

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Paula (Union Oil Co.)	Orcutt (Union Oil Co.)
14-14.9	$0.65	$0.65	$0.65	$0.65	$0.65	$0.65	....	....	$0.65	$0.65	$0.65	$0.65	$0.65	....	$0.57	$0.57	$0.57	$0.57	$0.57	$0.57	....
15-15.9	.65	.65	.69	.69	.66	.69	....	....	.66	.65	.65	.65	.65	....	.57	.57	.57	.57	.57	.57	....
16-16.9	.66	.65	.72	.73	.69	.73	....	....	.69	.67	.68	.65	.65	....	.57	.57	.57	.57	.57	.57	$0.57
17-17.9	.69	.65	.75	.76	.73	.76	....	....	.72	.70	.71	.65	.68	....	.57	.57	.57	.57	.57	.57	.57
18-18.9	.72	.65	.78	.80	.76	.79	....	F.O.B. Ship-	.75	.74	.74	.65	.71	....	.57	.61	.61	.59	.58	.60	.61
19-19.9	.75	.65	.81	.83	.80	.82	....		.78	.78	.78	.65	.74	....	.57	.64	.65	.62	.61	.63	.64
20-20.9	.78	.68	.83	.87	.83	.85	....		.81	.82	.81	.66	.78	....	....	.67	.69	.65	.64	.66	.67
21-21.9	.81	.72	.86	.90	.87	.88	....		.83	.85	.85	.69	.81	$0.72	....	.70	.73	.68	.67	.69	.70
22-22.9	.84	.76	.89	.94	.90	.92	....		.86	.89	.87	.72	.84	.76	....	.73	.76	.72	.70	.72	.73
23-23.9	.88	.81	.92	.97	.94	.95	$0.83		.89	.93	.90	.76	.87	.79	....	.77	.79	.75	.73	.75	.77
24-24.9	.91	.85	.95	1.01	.97	.98	.86		.92	.97	.93	.80	.90	.83	....	.81	.82	.78	.76	.78	.81
25-25.9	.94	.89	.98	....	1.00	1.01	.90	....	.95	1.00	....	.85	.93	.87	....	.85	.85	.81	.79	.81	.85
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	....	.98	1.04	....	.89	.96	.90	....	.89	.88	....	....	.84	.89
27-27.9	1.00	.98	1.04	....		1.07	.97	....	....	1.08	....	....	.99	.94	....	.93	.91	....	....	.88	....
28-28.9	1.03	1.02	1.07	....		1.10	1.01	....	....	1.11	....	....	1.02	.98	....	.97	.94	....	....	.92	....
29-29.9	1.06	1.06	1.09	....		....	1.04	....	....	1.15	....	....	1.05	1.01	....	1.01	.97	....	....	.96	....
30-30.9	1.09	1.10	1.12	....		....	1.08	....	....				1.09	1.05	....	1.05	1.00	....	....	1.00	....
31-31.9	....	....	....	....		....	1.12	....	....				1.12	1.08	....	1.09	....	....	....	....	....
32-32.9	....	....	....	....		....	1.15	....	....	Kettleman Hills			1.15	1.12	....	1.13	....	....	....	....	....
33-33.9	....	....	....	....		....	....	$1.03	....	$0.93			1.18	1.16	....	1.17	....	....	....	....	....
34-34.9	....	....	....	....		....	....	1.06	....	.96			1.21	1.19	....	....	....	....	....	....	....
35-35.9	....	....	....	....		....	....	1.09	....	.99			....	1.23	....	....	....	....	....	....	....
36-36.9	....	....	....	....		....	....	1.12	....	1.02			....	1.26	....	....	....	....	....	....	....
37-37.9	....	....	....	....		....	....	1.15	....	1.05			....	1.30	....	....	....	....	....	....	....
38-38.9	....	....	....	....		....	....	....	....	1.08			....	1.34	....	....	....	....	....	....	....
39-39.9	....	....	....	....		....	....	....	....	1.11			....	....	....	....	....	....	....	....	....

Subject to Field Gathering Charge of 5cper Bbl.

(Crude Oil Prices continued on next page)

Crude Oil Prices (In Effect Sept. 17, 1934)

(Continued from preceding page)

SOUTH TEXAS (Continued)

Oct. 2, Magnolia posted $0.87 in Darst Creek and $1.15 in Tomball; Sept. 29 it posted $0.80 in Mirando, $0.75 in Luling and $0.95 in Lytton Springs.

Jan. 11, 1934 Magnolia posted $1.00 for Cleveland, Liberty county, Tex.

Humble

Conroe (Montgomery Co., Tex.)

(Effective 7 a. m. Sept. 29, 1933)

35-35.9	$1.09	38-38.9	$1.15
36-36.9	1.11	39-39.9	1.17
37-37.9	1.13	40 & above	1.19

Sept. 30 Texas Co. met above prices.

NORTH LOUISIANA-ARKANSAS

Prices of Standard Oil Co. of Louisiana

(Effective 7 a. m. March 17, 1934, except Homer, Smackover and Nevada county Sept. 29, 1933) (In Caddo, Homer, Haynesville, Sabine, De Soto, Sarepta, Carterville, El Dorado and Miller county)

Below 25	$0.71	33-33.9	$0.89
25-25.9	0.73	34-34.9	0.91
26-26.9	0.75	35-35.9	0.93
27-27.9	0.77	36-36.9	0.95
28-28.9	0.79	37-37.9	0.97
29-29.9	0.81	38-38.9	0.99
30-30.9	0.83	39-39.9	1.01
31-31.9	0.85	40 and above	1.03
32-32.9	0.87		

Smackover, Ark.	$0.70
Nevada, Ark.	0.60
Urania, La. (La. Oil Refg. Co., Jan. 1, '34)	0.87

*GULF COASTAL

Posted by Humble Oil & Refining Co.

(Effective 7 a. m. Sept. 29, 1933)

Below 20	$0.82	27-27.9	$0.98
20-20.9	0.84	28-28.9	1.00
21-21.9	0.86	29-29.9	1.02
22-22.9	0.88	30-30.9	1.04
23-23.9	0.90	31-31.9	1.06
24-24.9	0.92	32-32.9	1.08
25-25.9	0.94	33-33.9	1.10
26-26.9	0.96	34 and above	1.12

Refugio heavy $0.85

GULF COASTAL—(Continued)

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Orange, Pierce Junction, Rabbs Ridge, Raccoon Bend, Refugio light, Sour Lake, Spindletop, Sugerland and West Columbia.

Above prices met Sept. 29 by Sinclair-Prairie and Sun Pipe Line Co.

The Texas Co.

(Effective 7 a. m. Sept. 30, 1933)

Same gravity and price schedule as Humble up to 30-30.9 gravity, which see; plus these grades:

30-30.9	$1.04	36-36.9	$1.10
31-31.9	1.05	37-37.9	1.11
32-32.9	1.06	38-38.9	1.12
33-33.9	1.07	39-39.9	1.13
34-34.9	1.08	40 and above	1.14
35-35.9	1.09		

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.

(Effective 7 a. m. Sept. 29, 1933)

Salt Creek and Dutton Creek, Wyo. Same schedule as Stanolind posts in Oklahoma-Kansas which see on first crude price page.

Elk Basin, light	$1.18
Grass Creek, light	1.18
Greybull-Torchlight	1.18
Iles, light, Col.	0.96
Iles, heavy	0.90
Hogback, N. M.	1.11
Frannie light (Effective May 1, 1934)	0.70
Frannie heavy	0.62

Posted by Ohio Oil Co.

(Effective 7 a. m. Sept. 29, 1933)

Elk Basin, Wyo.	$1.18
Grass Creek, light	1.18
Rock Creek	1.02
Big Muddy	1.01
Sunburst, Mont.	1.35

Posted by *International Refining Co.

(Effective 7 a. m. May 23, 1934)

Cutbank, Mont.	$1.45

*Texas Co. subsidiary.

New Refining Patents

Gasoline From Gas. U. S. P. 1 967 269, July 24, 1934, application filed Aug. 19, 1932; Harold M. Smith, Peter Grandone and Harry T. Rall; no assignment, but rights in the invention are accorded to the Government of the United States.

THE process of this invention provides an efficient and economical means for carrying out the known reactions of pyrolysis and polymerization by which synthetic gasoline can be produced from the light hydrocarbon gases (methane to the butanes) occurring in natural gas, petroleum still gases, etc. Inefficiency and failure in prior methods have been due to lack of due attention to the numerous factors which control yield of desirable light distillate; among these factors are temperature, gas velocity, the nature of the pyrolysis tubes, and the type of gas flow (streamline or turbulent). In the new process the gaseous hydrocarbons are diluted with an inert gas, e.g. nitrogen, and heated under pressure just sufficiently to rupture the carbon: carbon and carbon: hydrogen bonds, the gas flow being rapid enough to prevent side reactions. The hot gas then passes at once to an unheated polymerization chamber and thence, still in vapor phase, over a hydrogenating catalyst which facilitates the decomposition of polynuclear cyclic hydrocarbon products to yield desirable hydrocarbons of the benzene series. Thus a good yield of high grade gasoline is obtained by reconverting tar components to the desired gasoline distillation range.

Claims

Thermal decomposition of gaseous paraffin hydrocarbons at a temperature just sufficient to form fragments and free radicals by cracking, while controlling velocity and turbulence of the gas stream to avoid side reactions, passing the hot gases to a polymerizing chamber limited to a definite temperature range, removing the light oils and tar in vapor phase, passing them over a hydrogenating catalyst at a predetermined temperature and extracting the liquid products.

* * *

Anti-Knock Gasoline. U. S. P. 1 967 636, July 24, 1934, application filed Oct. 30, 1930; Chas C. Towne, assignor to The Texas Co.

THIS invention relates to a novel treatment by which straight run gasoline from paraffin base crudes, or any motor fuel distillate which is deficient in anti-knock value, can be converted into a high grade anti-knock gasoline. The new process involves cracking in the vapor phase, but depends for its success on the discovery that the reactions can be controlled by means of selective catalysts so that the degree of unsaturation and the proportion of aromatic hydrocarbons in the gasoline can be altered in the desired direction without materially changing the boiling point range of the distillate. Optimum conditions of temperature, time and pressure are chosen according to the kind of catalyst and its degree of activity, relatively mild conditions being effective with very active catalysts. In general, activated carbons on a silica gel carrier represent the best type of catalysts for the conversion.

Claims

In making gasoline with high anti-knock value, heating a straight run petroleum gasoline distillate in vapor phase to 500-700°C. in presence of silica gel impregnated with active carbon so that hydrocarbon constituents are converted into products of increased anti-knock value without any material increase in the quantity boiling within the gasoline range, and separating from the products of reaction a gasoline having a high anti-knock value.

* * *

Refining Lubricants. U. S. P. 1 968 392, July 31, 1934, application filed March 19, 1932; Robert E. Haylett, assignor to Union Oil Co. of California.

THE refining of asphaltic oils to produce lubricants by extraction with very light hydrocarbon fractions (liquefied fractions from natural gas) is materially improved by using a solvent fraction containing at least 20% ethane, with the balance chiefly propane, instead of the solvent hitherto used which was mostly propane but contained very little ethane. The new solvent mixture gives improved viscosity-temperature relations and at the same time lowers the Conradson carbon value of the final lubricant. In the final dewaxing stage the new solvent has the disadvantage of increasing the necessary operating pressure and hence the cost of the operation; but it has been found that this disadvantage is largely overcome if the ethane is vaporized from the solvent mixture under pressure after removing the asphalt but prior to the final dewaxing. The residual solvent, which is almost all propane, gives excellent results without undue operating expense when the oil solution in the propane is chilled and the wax precipitate is removed. When asphaltic oils are being refined which do not require dewaxing, the ethane is removed in the same man-

ner prior to final chemical refining operations.

Claims

Producing lubricants from asphaltic oils by mixing under pressure with a light liquid hydrocarbon solvent containing ethane and the remainder largely propane, separating undissolved asphalt from solvent and oil, separating the ethane from the solvent and oil by vaporization at about the extraction pressure, chilling the remaining solution by evaporating a portion of the solvent under reduced pressure till wax precipitates, separating the wax from the solvent and oil, and then separating the oil from the solvent.

* * *

Sweetening Gasoline. U. S. P. 1 968 089, July 31, 1934, application filed Nov. 11, 1929; Jacque C. Morrell, assignor to Universal Oil Products Co.

IT HAS been found that the plumbite treatment for sweetening gasolines can be greatly accelerated by using the litharge in a sodium silicate solution instead of in caustic soda solution. The time saving is so great that even the relatively refractory gasolines from Panhandle crude, Muskegon crude and certain West Texas crudes can be sweetened in about 10 minutes with the new reagent. At the same time a marked color improvement is obtained in the distillate, and by adding borax to the reagent the gum content of the distillate can be substantially reduced. The litharge solution is made by adding litharge to a hot solution of sodium silicate, which may also contain sodium hydroxide, and blowing with air so that some silicic acid is liberated. The silicic acid is apparently quite beneficial.

Claims

Sweetening mercaptan-containing gasolines by treatment with a mixture of sodium silicate and litharge containing silicic acid.

* * *

Slop Wax Distillate. U. S. P. 1 967 099, July 17, 1934, application filed March 19, 1932; Rudolph C. Osterstrom and Cary R. Wagner, assignors to Pure Oil Co.

THE customary rerunning of slop wax distillate to recover its useful lubricant components without its wax does not give a fully effective separation, introduces hazards of further loss by cracking, and is an expensive operation. It has now been found that slop wax distillate can be rendered suitable for use in lubricants by blending with a small amount of petrolatum and a still smaller amount of a viscous synthetic oil made by distilling a cracked distillate with aluminum chloride. This blended oil, when diluted in the proportion of 30 parts in 70 parts of Sharples naphtha, can be efficiently and economically dewaxed by the centrifugal method, thus obviating the necessity of a redistillation.

Claims

In removing undesirable compounds from slop wax distillate, adding to the distillate a small percentage of a synthetic oil formed as a residual product of the polymerization of cracked unsaturates with the aid of a metallic halide, whereby to permit separation of heavy undesirable compounds from the distillate by a specific gravity method without heating the distillate.

* * *

Lubricants. U. S. P. 1 966 624, July 17, 1934, application filed Aug. 24, 1929; Robert T. Haslam, assignor to Standard-I. G. Co.

THIS invention relates to a highly advantageous combination of high pressure catalytic hydrogenation and selective solvent extraction for making lubricants with desirable viscosity-temperature relations from low grade crudes or other heavy oils. The preferred temperature and pressure conditions for the catalytic hydrogenation stage are between 750 and 900°F. and between 100 and 200 atm., the time of contact being adjusted so that the gasoline formation is proportionally small (always below 20 and preferably below 10 or even 5%). From the product the fractions boiling above 400°F. are cooled, washed with alkali and extracted with a selective solvent for the aromatic and/or unsaturated (olefinic) components which impair the viscosity-temperature relations of the lubricant. The extraction may be batch or continuous and is preferably counter-current to conserve solvent. Phenol, with 5-15% water or with alcohol, glycol or glycerol, is an effective selective solvent. Lubricants equal or superior to Pennsylvania grades are thus produced. The method is also useful in producing high grade non-smoking kerosines, high-boiling solvent oils and flotation oils.

Claims

Producing refined from crude burning and lubricating fractions by partially refining these fractions by destructive hydrogenation in presence of added solid fuels, with such time of contact as to convert an appreciable amount but less than 20% of the oil into fractions boiling below 400°F., and further refining by extraction with a suitable non-reactive selective solvent capable of removing aromatic hydrocarbons and unsaturates.

* * *

Stable White Oil. U. S. P. 1 966 050. July 10, 1934, application filed Nov. 19, 1929; Reginald G. Sloane, assignor to Standard Oil Development Co.

WHITE oils, i.e., the highly refined lubricants for use in steam turbines and similar applications, are so sensitive to atmospheric oxidation that they may develop undesirable acidity even in storage if exposed to air; they are particularly liable to such spoilage in summer. Now it has been found that certain higher members of the mercaptan type of compounds are potent anti-oxidants for stabilizing white oils against oxidation, and that these mercaptans are not corrosive to copper and other metals in the turbine. Their boiling points are sufficiently high to prevent vaporization losses, and they do not form sludge nor develop acidity in service even at high bearing temperatures. Among the cyclic compounds, beta-napthyl mercaptan is among the best of the stabilizers; in the aliphatic series the lowest permissible member is n-heptyl mercaptan, which is a moderately potent anti-oxidant. The stabilizer concentration need be only about 0.05 to 0.1 per cent.

Claims

Protecting petroleum white oil against oxidation by adding to the oil a small amount of mercaptan having at least 7 carbon atoms and being soluble in the white oil.

* * *

Methanolysis. U. S. P. 1 965 790. July 17, 1934, application filed Sept. 20, 1930; Carleton Ellis, assignor to Standard-I. G. Co.

A MAJOR barrier to large yield in oil cracking operations is the formation of fixed gas and heavy hydrocarbons by dehydrogenation to form hydrogen and unsaturates from saturated hydrocarbons, and polymerization of a portion of the unsaturates. Now it has been found that these undesirable side reactions can be largely repressed by carrying on the cracking operation in presence of substantial quantities of methane and hydrogen. This provides, in effect, a combined methanolysis and hydrogenolysis and is essentially different from the destructive hydrogenation of heavy oils to form gasoline fractions. The preferred pressure range is between 150 and 250 atm., but higher pressures (even up to 1000 atm.) may be used. The preferred temperature range is between 900 and 1000°F. Sulfur immune catalysts are used as in hydrogenation, but the amount of hydrogen which must be supplied is smaller than in hydrogenation and this represents an important operating economy.

Claims

Hydromethanizing petroleum by treatment at 900-1020°F. and above 50 atm., in presence of a sulfactive catalyst, with a space proportioning volume of a hot highly compressed orienting gas mixture containing a major proportion of hydrogen (insufficient to produce saturated liquid products), a lesser equilibrating proportion of methane and a still lower proportion of carbon monoxide, long enough to convert most of the petroleum into desulfurized liquid products and the carbon monoxide into methane, condensing the liquid products, removing ammonium compounds and collecting the methane enriched gas, mixing with fresh gas of higher hydrogen and lower methane content, and using the mixture for further oil treatment.

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Michigan as a Refining District

(*Continued from page* 32)

This conclusion is based of course on the assumption that all Michigan third grade gasoline will be supplied by local refiners from local crude and that no Michigan gasoline is shipped outside the state. Such is not the case, of course. This figure of 3,000,000 barrels represents the potential market for all outlets, for third grade motor fuel. Just what portion of it is commercially practicable for the Michigan refiner to obtain will be, or should be, determined by the freight advantage, combined with such economic advantages as are possible by lower crude prices, and lower manufacturing costs. Informed observers believe that Michigan probably consumed a quantity of third grade gasoline considerably in excess of 20 per cent of its total motor fuel consumption.

Two points in the Michigan situation cannot be repeated too often. The country in general is sadly overbuilt on refining capacity about 4,000,000 barrels of capacity as against slightly more than 2,000,000 barrels of consumption under present conditions. Therefore, no more refining plants should be built unless sound economic reasons exist, which will enable the new plant to serve the public more cheaply than existing refineries can. While the present over-capacity is much greater than consumption demands, it is not all economically located, and a relocation of existing modern plants, instead of constructing new ones, may be part of the answer.

Nor can we see how permanent prosperity, and a profitable business, is to be built on the foundation of third grade gasoline and fuel oils alone Michigan crude should be studied thoroughly for other products, lubricants, road materials, and so on to give the refiner a greater number of strings to his bow. By cracking, by re-forming, by making lubricants in some cases, by working out methods for a well-rounded refining production program, the Michigan refiner can expect to obtain and retain a "place in the sun." Any other program is building on sand, and cannot be expected to withstand the rigors of continued competition.

Michigan Meet Postponed

LANSING, Mich., Sept. 14.—The Michigan Petroleum Association, which had planned a meeting for Oct. 9, has postponed this meeting indefinitely, according to Charles Goff, executive secretary.

Canadian Mining Statistics For 1932 Are Issued

The Annual Report on the Mineral Production of Canada during the calendar year, 1932, has just been issued by Department of Trade and Commerce, Ottawa, Canada. The customary final data on production, imports and exports of metals and minerals, coal, petroleum, and clay products, figures on the capital invested in the mining industry, the number of employes, salaries and wages paid, the amount and kind of fuel used, and the power equipment installed are included in this summary. Tables of world production of the more important minerals and metals are also included.

Of interest in the petroleum section is the figure of 1,044,000 barrels total production for 1932, which was about two thirds that of the previous years. A curtailment in drilling operations was indicated by the fact that only 12,000 feet were drilled as compared to 80,000 feet in 1931 and 190,000 feet in 1930. Only seven new wells were brought into production.

Capital employed decreased from $57,600,000 to $48,600,000, while total salaries decreased over 50 per cent, from $1,630,000 to $776,000, to approximately half as many employes as the previous year.

The price of this 245 page report is 50 cents.

Division Manager Promoted

TULSA, Aug. 28.—F. B. Brocksus, of Waterloo, Ia., who has been sales manager for the northern division of the Mid-Continental Petroleum Corp., has been made vice president and general manager of the L. V. White Co., Kalamazoo, Mich. This company is a subsidiary of Mid-Continent Petroleum.

Mr. Brocksus has been with Mid-Continent and its subsidiary marketing units since 1928.

Lubrite Awards Contracts

ST. LOUIS—The Lubrite Refining Corp. has awarded contracts for the erection of a Knowles Process installation, in accordance with plans and proposals submitted by H. A. Brassert & Co., Chicago.

The installation will include three Knowles ovens with Coke handling facilities, as well as pipe still and supplemental fractionating equipment. The latter will be built by J. P. Devine Corp.

This process will handle a heavy residuum produced at the Lubrite East St. Louis refinery, converting it into a No. 3 furnace oil and a low volatile non-friable coke.

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S. O. Indiana Price Cut May Bring Changes in Marginal Contracts

TULSA, Sept. 15

THE annual study of contracts to be offered jobber customers in 1935 already is under way by Mid-Continent refiners as a result of the recent readjustment of retail price levels by the Standard Oil Co. of Indiana.

Serious consideration of the type of contract to be offered each year does not develop normally until later in the fall. The Standard company's action, however, precipitated this study. In the first place, a majority of existing contracts between midwest jobbers and Mid-Continent refiners contain a marginal guarantee of 6 cents a gallon. It is generally believed, however, that Standard has discharged its former plan of determining retail price levels and now is using the spot market, plus freight from Group 3 to destination, plus a margin of 5.5 cents.

With refiners guaranteeing a 6-cent margin, this new retail price level has resulted in a still smaller net-back at refinery for them. And those net-backs, particularly from areas of good, healthy price wars, have been a source of considerable misery.

The first consideration has been what to do about existing contracts. There probably will be an attempt made to cancel those which carry cancellation clauses, and to offer some other form of contract in its stead. The study has not gone far enough as yet, however, to say with any certainty what this new contract will contain. It was generally expected more information would be available within the next week or 10 days.

In the meantime Mid-Continent refiners generally are writing no marginal guarantee contracts of any kind

Another factor which is being given consideration in connection with the revamping of contracts is the so-called 4-4-3 dealer contracts. It is reported in some quarters that an attempt is being made to get that particular contract either thrown overboard or modified by reduction, or by having the dealer share with his source of supply his normal margin when there are local price disturbances. As the contracts now are written the dealer gets his 4 cents for regular and premium gasolines and 3 cents for third grade, regardless of what the retail price level might be. He accordingly has no incentive to see the price structure maintained.

That type of contract has cost some refiners writing them a tidy sum, and several independent refiners not offering them an enormous amount of tank car gasoline business this year.

Widespread retail price disturbances have kept the margin between the spot market tank car price and the tank wagon price extremely narrow in many areas. If the jobber continued to buy in tank car lots and maintain his bulk plant, his margin for operating expenses has been thin.

On the other hand, he could reach for his phone, if he had a 4-4-3 contract, order the amount of gasoline he needed, have it delivered where he wanted it, and be assured of a margin of 3 to 4 cents, regardless of tank car gasoline prices or local price wars. He ran no risks to speak of, and had little overhead to worry about. Under the conditions naturally he grabbed at the 4-4-3 contract and left the independent refiner with no retail outlets holding the sack as far as tank car business was concerned.

Early Approval Of Agreement Likely

CHICAGO, Sept. 13.—The possibility of an early approval and functioning of the Chicago marketing agreement which has been under formation for several weeks appeared likely today.

Ralph Horween, Chicago, attorney for the Petroleum Administrative Board, who has been active in its formation, was in Washington Sept. 11, to discuss the agreement with officials there. Mr. Horween thinks that the approval of the department of justice will be obtained shortly and that the Petroleum Board will recommend its approval to Administrator Ickes. It thus appears likely that actual signing of companies to the final agreement may be started shortly.

Briefly, the marketing agreement seeks to eliminate the practices of giving premiums, secret rebates and other unfair marketing practices which have been widespread in the metropolitan Chicago area. This would be done through a voluntary agreement between suppliers, dealers, trackside stations, and jobbers operating in the area. Several different provisions for withdrawal from the agreement are incorporated in it.

While the practices which the drafters of the marketing agreement hope to stop also are prohibited by the oil code, it has been difficult to obtain convictions of the offenders and court action necessarily is slow. The marketing agreement would go at the job in a different manner, that is, seeking to enforce these code provisions by voluntary agreement of the companies and dealers involved.

Correction

The patent number given on page 23 of the Aug. 29 issue of NATIONAL PETROLEUM NEWS in an item regarding the invalidation by opinion of "Dehydrated" grease patent should have been 1,599,854 instead of 1,559,854.

Mother of 3 Oil Men Dies In Illinois

CHICAGO—Mrs. Fanny Johnson, mother of three men actively in the oil business, died at the home of a son in late August.

The three sons are H. W. Johnson, Johnson High Test Oil Co., Freeport, Ill.; C. E. Johnson, Johnson High Test Oil Co., Kewanee, Ill.; and D. N. Johnson, independent driller at Bristow, Okla.

At one time five members of Mrs. Johnson's family were in the petroleum business, her late husband and four sons. Mrs. Johnson was 71 years old and a pioneer of Illinois. She always took an active interest in the business ventures of her family and encouraged them in their plans.

Mrs. Johnson's home was in Rock Island, Ill., but she had been visiting in Freeport and in Kewanee and died in Kewanee. Burial was on Aug. 29 at Avon, Ill.

Acheson Moves Offices

Acheson Colloids Corp., Port Huron, Mich., announces the removal of its New York office from 654 Madison Av. to 444 Madison Av. The move was made to accommodate the increasing number of employes called for by the normal growth in business. The business of this office is devoted entirely to field research work, patents, trade-marks, finances, taxes, legal and corporate matters.

Football Broadcast Planned

Shell Eastern Petroleum Products, Inc., is sponsoring the third annual series of thrice-weekly football broadcasts over the WABC-Columbia network this year. The series will be known as "Shell Football Reporter—Eddie Dooley".

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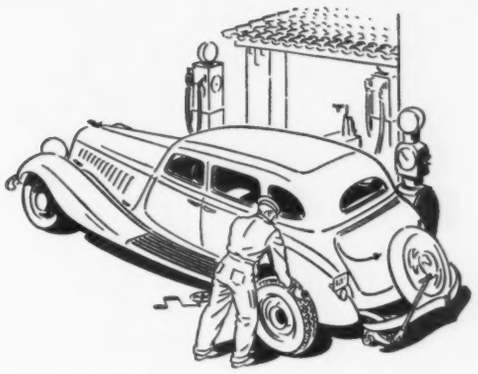

WHEN one of your oil-stations sells a tire, your reputation with the customer depends on the manufacturer of the tire. In other words, the quality of the tire, and the satisfaction it gives, are entirely out of your hands. Yet *your* reputation is at stake! To protect yourself, you must be sure the manufacturer made the tire right in every respect.

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Here are just a few of the many well-known brands of motor oils now being sold in 1-qt. and 5-qt. refinery-sealed tamper-proof cans. It isn't at all remarkable that sales immediately soared to new heights when these companies adopted the canned oil idea,—for by that action they at once captured public confidence in their oils. And that confidence is resulting in unprecedented sales. Not that more oil is being sold, but that volume is being diverted from bulk oil dispensers.

Undoubtedly you have already considered marketing your oils in 1-qt. and 5-qt. cans, but possibly have not yet acquainted yourself with the mechanical ease with which this may be accomplished. The M&S Filler, pictured below, has made it possible for practically every company now selling canned oil to fill cans automatically to hairline accuracy and at any desired speed up to 150 cans per minute. All cans are filled exactly alike, and unique patented devices absolutely prevent drip, soiling or waste.

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Standard Tries New Policy In Chicago Area

CHICAGO, Sept. 15.—An experiment in marketing is now being made by Standard Oil Co. of Indiana in the metropolitan Chicago area. This involves the sale of a different grade of gasoline to strictly commercial consumers than is offered to the retail grade.

The new product does not contain lead, ranges from 63 to 65 octane, around 63 gravity, water white and has a good volatility range.

This gasoline, so far as octane rating is concerned, ranks between Standard's regular leaded Red Crown and its unleaded Stanolind (third-grade) gasoline, which are sold both at wholesale and retail.

Standard's present tank wagon price for the new gasoline is 9.3 cents, without taxes and is subject to the regular commercial discounts on 60 to 70 octane gasolines of 1 cent a gallon for purchases of 3000 to 10,000 gallons monthly, and 2 cents a gallon for purchases of over 10,000 gallons.

The present tank wagon price for Stanolind is 9.8 cents, without taxes, subject to discounts of 0.5 cent a gallon for purchases of 3000 to 10,000 gallons monthly and 2 cents a gallon for purchases of over 10,000 gallons. This brings the lowest net price to large commercial buyers to 7.3 cents a gallon for the new gasoline, compared to a net of 8.8 cents for Stanolind.

Officials of Standard are very emphatic on two points regarding the new gasoline. First, it is being offered only to strictly commercial consumers for tank wagon delivery. Second, it is being offered only in the metropolitan Chicago area to meet a competitive situation.

Engineering Firm Re-established

KANSAS CITY—C. W. Stratford has re-established the Stratford Engineering Corp., a company previously engaged in European and domestic refining equipment business, with offices here.

Mr. Stratford has recently resigned his position as president and general manager of Alco Products International of Paris, in which capacity he served for three years.

J. A. Altshuler resigned his position as technical director of Alco Products International of Paris as of Sept. 1, to assume the position of an officer of the Stratford Engineering Corp.

C. H. Edmonds has been appointed to fill the vacancy in the Alco Products International caused by the resignation of Mr. Stratford.

Illinois Stabilization Work Under Way

SPRINGFIELD, Sept. 15.—Efforts pointing towards stabilization of retail gasoline markets in Illinois are under way and a well organized plan for the work has resulted from the two meetings of the state and zone stabilization committee held here this week, according to Wallace Wright, East St. Louis marketer, chairman of the state committee.

The committee has not endorsed any given tolerance to different classes of marketer, it was reported. If any tolerance is given it must be worked out by the district chairman in keeping with local conditions and the attitude of the majority of the marketers operating in that community.

Reports were that every major company operating in Illinois had pledged their willingness to cooperate in the stabilization work to the fullest extent.

The state has been divided into eleven districts, with a committee selected for each district. Following are the chairmen for these eleven zones:

A. J. Schager, Phillips Petroleum Co., Elgin; George E. Mundy, Cities Service Oil Co., Rockford; J. J. Meehan, The Texas Co., Rock Island; M. C. Hill, Johnson Oil & Refining Co., Peoria; R. H. Baker, Sinclair Refining Co., Joliet; C. A. Buechner, Lincoln Oil & Refining Co., Robinson; A. O. Eberle, National Refining Co., Springfield; J. W. Arnold, Richardson Lubricating Co., Quincy; E. J. Barrett, Shell Petroleum Corp., East St. Louis; Frank Crews, Shell Petroleum Corp., Mt. Vernon; and N. F. Bammert, Lubrite Refining Corp., Carbondale.

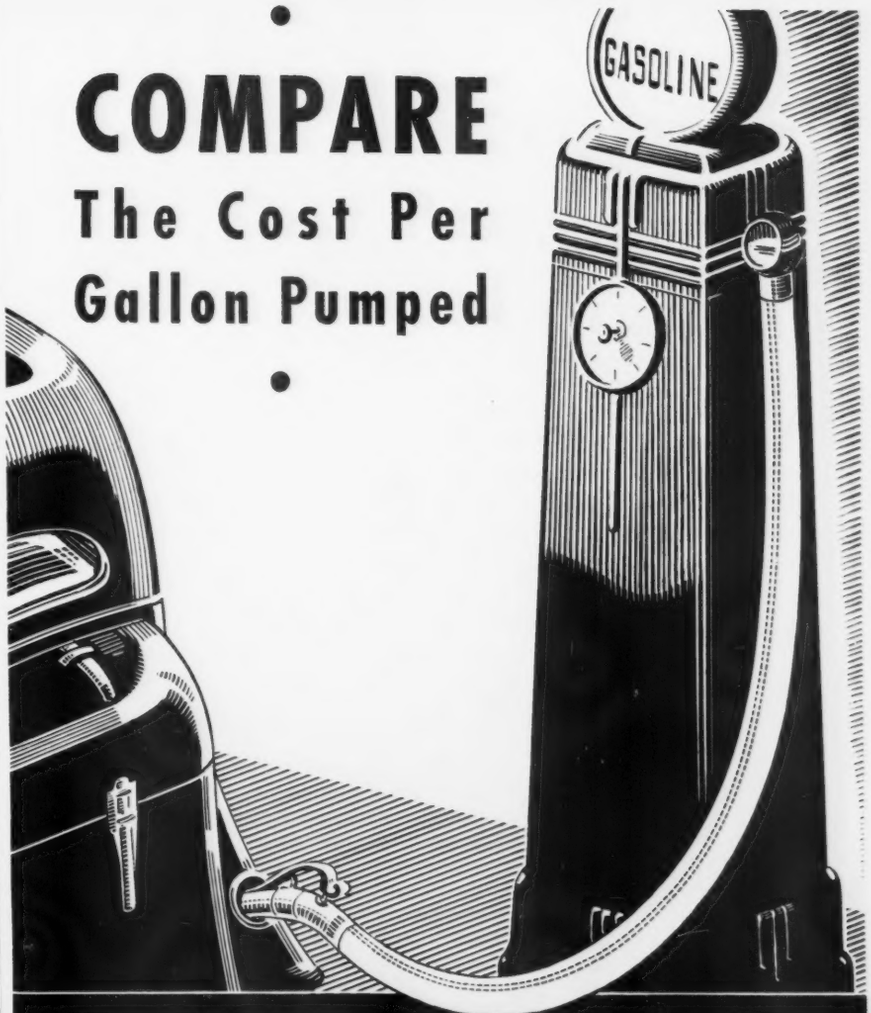
Sun Oil Enters Richmond

RICHMOND, Va., Sept. 8—Opening seven new service stations here during the past week, the Sun Oil Co. inaugurates an expansion program that will eventually result in the opening of some 13 stations in Richmond. The company already has a bulk plant at Fulton and with the additional properties will increase its investments in the area by $200,000.

Oil From Russia Drops

First half-year exports of Russian oil declined 16 per cent in volume and 31 per cent in value over a corresponding period in 1933, according to an oversea's report.

Totals for the six months of this year amount to 2,136,000 tons and 31,000,000 roubles. Gasoline exports, however, increased by 97,000 tons, making a total of 757,000 tons exported this year as compared with 660,000 tons in a similar period last year.



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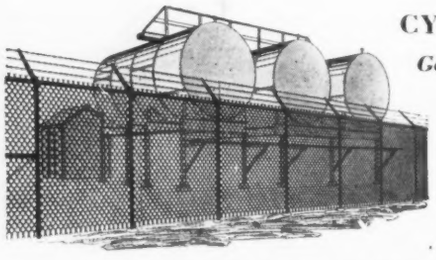

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New Patents

Prepared by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh street, N. W., Washington, D. C., from whom copies may be obtained at the rate of 25c each. State number of patent and name of inventor when ordering.

August 21, 1934

MISCELLANEOUS

Gum inhibitor—William S. Calcott, Penns Grove, N. J., and Herbert W. Walker, Wilmington, Del., assignors to Gasoline Antioxidant Co., Wilmington. Filed March 25, 1930. No. 1,971,329.

Process for manufacture of cup grease—Philip Subkow, Los Angeles, Calif., assignor to Union Oil Co. Filed Sept. 28, 1931. No. 1,971,760.

September 4, 1934

REFINING

Apparatus for conditioning fluids (hydrocarbon oil).—Beverly P. Lientz, Kansas City, Mo. Filed May 9, 1928. No. 1,972,099.

Hydrocarbon oil treatment—William M. Malisoff, Philadelphia, Pa., assignor to Atlantic Refining Co. Filed Dec. 12, 1930. No. 1,972,102.

Method of cracking oils in vapor phase—Percy C. Keith, Jr., Bernardsville, N. J., assignor to Gasoline Products Co. Filed Dec. 1, 1928. No. 1,972,149.

Still clean-out return bend—Arthur M. Houser, Oak Park, Ill., assignor to Crane Co., Chicago, Ill. Filed Mar. 3, 1933. No. 1,972,445.

Dehydrating oil—Robert E. Manley and Robert F. Knoss, Beacon, N. Y., assignors to Texas Co. Filed Dec. 26, 1931. No. 1,972,454.

MISCELLANEOUS

Dispensing system—Charles D. Fagan, Sharon, and Rehl W. Swank, Sharpsville, Pa. Filed May 12, 1931. No. 1,972,261.

Gum inhibitor for hydrocarbon fuels—William S. Calcott, Penns Grove, N. J., and Ira E. Lee, Wilmington, Del., assignors to Gasoline Antioxidant Co. Wilmington. Filed Aug. 23, 1929. No. 1,972,760.

Liquid-dispensing apparatus—Jay Ratsema, Muskegon, Mich., assignor to Service Station Equipment Co., Conshohocken, Pa., Filed Feb. 20, 1931. No. 1,972,830.

September 11, 1934

REFINING

Hydrogenation of oils—Donald E. Payne, Chicago, Ill., assignor to Standard Oil Co. (Ind.). Filed May 24, 1930. No. 1,972,948.

Manufacture of lubricating oil—Carey F. Spencer, Houston, Tex., assignor to Sinclair Refining Co. Filed Mar. 9, 1932. No. 1,973,118.

Manufacture of lubricating oil—Carey F. Spencer, assignor to Sinclair Refining Co. Filed Mar. 9, 1932. No. 1,973,119.

Apparatus for removing (recovering) waste oil—William Umont, Duneilen, N. J. Filed May 29, 1931. No. 1,973,235.

Method and apparatus for treating hydrocarbons—Erik Mutter, New Brighton, N. Y., assignor to Standard Oil Development Co. Filed May 29, 1930. No. 1,973,294.

Process for breaking oil-field petroleum-water emulsions—Leo P. Curtain, Cranbury, N. J. Filed Mar. 17, 1933. No. 1,973,430.

Process of refining mineral oil—Francis X. Govers, Vincennes, Ind., assignor to Indian Refining Co. Filed June 10, 1931. No. 1,973,621.

Colorado Requires Report On Imports by Truck

INDIANAPOLIS—A change in the Colorado gasoline tax law requiring an immediate report of motor fuel and kerosine trucked into the state is reported in the current bulletin of the North American Gasoline Tax Conference.

The change is an amendment to the gasoline tax law, Sec. 6, Para B.

Truck operators are now required to send by mail to the state treasurer a report on the motor fuel or kerosine immediately upon or before it enters the state. Information is to be given on the names and addresses of the consignor and consignee, and other data the state treasurer may require, on forms furnished by the treasurer.

The truck driver may have on his person a copy of the report, and the sales ticket, invoice, bill of lading or other paper showing the name and address of the person from whom the motor fuel or kerosine was obtained, the kind and amount, and the name and address of the person to which the product is being delivered.

Deep Rock Reorganization To Offer New Shares

CHICAGO, Sept. 15.—Reorganization plans of the Deep Rock Oil Co., now in receivership, call for the offering by a new company of $10,000,000 of 6 per cent, 15-year cumulative income sinking fund debentures, subject to increase. Additional offers under the plan announced 25,000 shares of no-par value $7 cumulative preferred stock, and 520,000 shares of no-par value common stock.

To holders of the present 6 per cent notes of $500 principal amount would go $500 of the new income debentures and four shares of the common stock. Those now possessing shares of Deep Rock's $7 preferred stock will receive the new common stock, share for share. No exchange is being made for current common stock.

The debt to Standard Gas & Electric Co. which totals $9,342,000 is to be cared for by the distribution to it of 25,000 shares of new $7 preferred and 390,000 shares of common stock. Standard is to cancel all indebtedness owing to it by Deep Rock and will shift all the capital stock of that company to the new company making it unnecessary for the new organization to complete future rental obligations with respect to the properties once leased from the Standard company.

1 No blades rubbing outer wall.

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4 Can be dismantled and reassembled without special tools by any operator.

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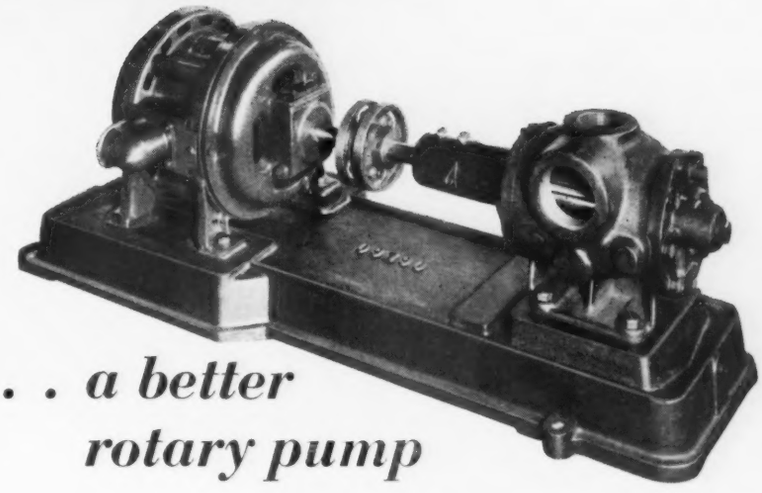
6 Less churning.



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Transactions in Oil Stocks on New York Stock Exchange

1933 High	1933 Low	1934 High	1934 Low	Listed Shares	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended Sept. 15 Sales Shares	High	Low	Last	Week's Change
47¾	18½	55⅝	41½	922,070	N.P.	Amerada Corp.	50cQ	Apr. 30, 34	2,900	46	41⅝	41¾	— 4¾
35½	6¾	40½	29½	2,290,412	$25	Associated Oil Co.	50c	Mar. 30. 34	.....	....	....	....	....
32½	12¾	35¼	21½	2,696,652	25	Atlantic Refining Co.	25cQ	Sept. 15, 34	7,400	24½	22⅝	22¼	— 2¼
11	3	10	6	2,258,779	5	Barnsdall Corp.	....	May 11, 31	9,500	6⅝	6	6⅛	— ½
12	5¼	9¾	5	1,444,970	N.P.	Colonial Beacon Oil Co.	....	....	100	6¼	6¼	6¼	+ 1¼
15¾	5	14¼	7¾	14,218,835	N.P.	Consolidated Oil Corp.	....	April 7, 34	18,700	8⅜	7¾	7¾	— ⅝
108	95½	112	108	132,771	$100	do pfd.	$2Q	Aug. 15, 34	.....	....	....	....	....
19¾	4⅞	22¾	15¾	4,722,652	5	Continental Oil Co.	25c	Apr. 30, 34	19,700	17⅞	16½	17¼	0
27	4⅝	23½	12	413,333	$10	General Asphalt Co.	....	June 15, 32	2,900	15¾	14¼	14½	— 1¾
38	8¼	29¾	12½	95,841	100	Houston Oil Co.	....	....	900	15	14½	14½	— 1¼
7⅜	1⅞	5⅜	2½	678,234	25	do v.t.c.	....	Feb. 1, 32	1,900	3	2⅝	2⅝	— ⅜
4½	1⅜	4¾	2⅜	1,207,132	10	Indian Refining Co.	....	Dec. 15, 20	.....	....	....	....	....
4	⅜	3⅜	1¼	1,309,060	N.P.	Louisiana Oil Ref'g. Corp.	....	....	200	1¼	1¼	1¼	0
29	3½	23½	7¼	40,000	$100	do pfd.	....	May 16, 32	10	9½	9½	9½	— ⅜
4	½	3¼	1½	330,000	N.P.	Maracaibo Oil Exploration Co.	....	....	.....	....	....	....	....
72	55	63½	50	449,083	$100	Mexican Petroleum Co.	....	Apr. 20, 31	.....	....	....	....	....
16	3¾	14¾	9⅛	1,857,912	N.P.	Mid-Continent Pet. Corp.	25c	May 15, 31	4,700	11⅝	10¼	10¾	— 1⅛
17⅜	4¾	15⅞	8½	6,648,052	N.P.	Ohio Oil Co.	15c	Sept. 15, 34	8,300	10¼	9⅝	9⅝	— ⅝
14	8	11½	10¾	4,699,885	$5	Pan Amer. Pet. & Transp. Co.	....	Mar. 15, 33	100	10¾	10¾	10¾	— ¼
4¼	⅜	2½	⅜	199,370	N.P.	Panhandle Prod. & Ref'g. Co.	....	....	.....	....	....	....	....
20	5¾	21½	8½	17,994	$100	do pfd.	....	July 2, 23	.....	....	....	....	....
15	4⅜	14¼	8¼	2,153,444	5	Petroleum Corp. of America	50c	May 14, 34	3,500	9½	9	9	— ¼
18¾	4¼	20⅜	14½	4,439,450	N.P.	Phillips Petroleum Co.	25c	Sept. 15, 34	7,800	16	14⅝	14¾	— 1⅛
1⅜	¼	1⅜	½	1,184,817	$25	Pierce Oil Corp.	....	....	1,100	½	½	½	0
13½	3⅞	10¾	5	150,000	100	do pfd.	....	Feb. 1, 22	200	5¾	5¾	5¾	— ¼
2¾	⅝	2	1	2,500,000	N.P.	Pierce Petroleum Corp.	....	Feb. 16, 31	4,000	1⅛	1	1	— ⅛
17¾	6¾	16¾	8	1,050,000	$5	Plymouth Oil	25cQ	Mar. 31, 34	3,700	9	8⅜	8½	— 1
15¾	2½	14⅞	7	3,038,370	N.P.	Pure Oil Co.	....	Sept. 1, 30	7,600	7¾	†7	7	— ¾
69⅞	30	80	58½	130,000	$100	do 8% pfd.	....	Apr. 1, 33	320	60¾	†58½	58½	— 2½
39¾	17⅜	39½	32¼	425,342	$14.00	Royal Dutch Co. (N. Y. shares)	$1.35	July 31, 34	700	34½	33⅝	34⅜	— ⅝
43¾	15	38¾	21½	1,244,383	N.P.	Seaboard Oil Co. of Del.	15cQ 10c Ex.	Sept. 15, 34	3,500	25	†21½	21½	— 3½
31	11¼	26½	21	56,148	£2	Shell Transport & Trading Co.	75c	July 23, 34	.....	....	....	....	....
11⅜	4	11½	6⅛	13,070,625	N.P.	Shell Union Oil Corp.	....	June 30, 30	4,300	7	6½	6¾	— ⅛
61	28½	89	57	400,000	$100	do pfd. w.w.	$1.37½	July 1, 31	800	61	60⅜	61	— 1¼
12¾	4⅞	11¾	7¼	461,000	10	Simms Petroleum Co.	30c	Aug. 1, 34	3,800	10	9⅝	9⅝	— ⅛
9⅞	3	11½	6¾	1,100,069	25	Skelly Oil Co.	50c	Dec. 15, 30	300	7	7	7	— ⅛
57½	22	68⅛	54	120,000	100	do pfd.	$1.50	May 1, 31	.....	....	....	....	....
17	6	19⅞	12½	31,701,348	25	Socony Vacuum Oil Co.	15c	Sept. 15, 34	31,300	14¼	13	13¼	— 1
102¾	92½	110¼	96½	764,925	100	S. O. Export Corp. pfd.	$2.50S.A.	June 30, 33	500	110	109½	109½	— ½
45	19¼	42⅞	30⅝	13,102,900	N.P.	S. O. California	25cQ	Sept. 15, 34	18,900	33¾	30¾	31	— 2¾
....	....	32¾	25	15,375,175	$25	S. O. Indiana	25c	Sept. 15, 34	19,600	26¾	25¼	25½	— 1¼
39⅛	12¾	41	27	320,000	$10	S. O. Kansas	50c	Apr. 30, 34	500	29	†27½	27½	— 3
47½	22¾	50⅛	40⅝	25,740,965	25	S. O. New Jersey	50cS.A.	June 15, 34	20,000	44	41⅜	41½	— 2½
59	35	69¾	51⅓	1,590,406	N.P.	Sun Oil Co.	25cQ	Sept. 15, 34	500	69	68	68¾	— ½
103	89	117	100	100,000	$100	do pfd	$1.50Q	Sept. 1, 34	140	116¾	116	116	0
4½	⅝	3	1¼	966,979	N.P.	Superior Oil Corp. (Del.)	....	....	3,900	2⅛	1⅝	1⅝	— ⅜
30½	10¾	29⅝	20	9,851,236	$25	The Texas Corp.	25cQ	July 2, 34	9,600	22½	21	21⅛	— 1¼
6½	1⅝	6½	2½	930,570	10	Texas Pacific Coal & Oil Co.	....	Dec. 31, 29	2,000	2⅞	2⅝	2¾	— ¼
11¾	3½	14⅝	8½	5,998,919	N.P.	Tide Water Associated Oil Co.	50c	Apr. 1, 34	8,500	9¾	8¾	8¾	— ⅛
65¼	23½	85⅛	64½	695,503	$100	do pfd. C. T. V.	$2.00	June 30, 34	500	81	80	80	— 1½
26	9¾	40	31	2,191,823	N.P.	Tide Water Oil Co.	25c	Dec. 23, 33	.....	....	....	....	....
80	45	96½	80	199,446	$100	do pfd.	$1.25Q	Nov. 15, 33	100	94½	94½	94½	— ½
23⅝	8½	20½	13¾	4,386,070	25	Union Oil of California	25cQ	Aug. 10, 34	1,900	15¼	14¼	14¼	— 1
22¾	10½	21¼	15⅝	1,200,000	N.P.	Union Tank Car Co.	30cQ	Sept. 1, 34	900	19⅜	19	19	+ ⅛
4⅞	⅝	3⅞	1¼	759,538	N.P.	Warner Quinlan Co.	....	July 3, 30	300	1⅜	†1¼	1¼	— ¼
5½	2	5¾	2½	431,443	$5	H. F. Wilcox Oil & Gas Co.	....	May 10, 28	300	3½	3⅛	3⅛	— ⅜

*New high. †New low. x Ex-div. **On accum. pfd.

Standard Oil Stocks on New York Curb Market

1933 High	1933 Low	1934 High	1934 Low	Shares Issued	Par Value	Company	Div. Rate Period	Last Div. Paid	Transactions Week Ended Sept. 15 Sales Shares	High	Low	Last	Week's Change
13	6	11	6	40,000	$25	Borne Scrymser Co.	....	Oct. 15, 30	50	6	6	6	— 1
39¾	25	38	26	200,000	50	Buckeye Pipe Line Co.	75cQ	Sept. 15, 34	50	31	31	31	+ 1
129	71	126½	116	120,000	25	Chesebrough Mfg. Co.	$1.50Q	June 29, 34	.....	....	....	....	....
12	2¼	14⅝	9⅛	5,977,873	N.P.	Creole Petroleum Co.	....	.....	6,400	13	12⅜	12⅜	— ⅝
41¾	20	37	30	50,000	$100	Eureka Pipe Line Co.	$1Q	Aug. 1, 34	.....	....	....	....	....
105½	40	46⅜	33¼	9,000,000	N.P.	Humble Oil & Refg. Co.	25cQ	July 1, 34	5,000	41¾	40	40	— 1⅜
15⅞	6½	15½	12⅜	26,742,792	N.P.	Imperial Oil Corp. coup.	25cQ	June 1, 34	6,000	15	14¼	14¾	— ⅛
15¾	6½	15⅜	13	.....	N.P.	do registered	25cQ	June 1, 34	600	14⅝	14⅜	14⅜	— ⅜
8	3¼	6⅞	3¾	300,000	$10	Indiana Pipe Line Co.	††15c S.A.	May 15, 34	.....	....	....	....	....
23½	8¾	30⅜	19⅜	14,247,088	N.P.	International Pet. Co.	††56cQ	June 1, 34	16,000	29¼	26¾	27⅜	— 1⅝
10	5½	9½	7⅜	513,000	$12.50	National Transit Co.	15c	April 14, 34	200	7¾	7¾	7¾	— ¼
4⅛	3	4⅝	3	100,000	5	New York Transit Co.	15c S.A.	April 14, 34	.....	....	....	....	....
6½	4¼	7	4⅜	120,000	10	Northern Pipe Line Co.	25c S.A.	July 2, 34	.....	....	....	....	....
87	70¼	88	83½	580,796	100	Ohio Oil Co. pfd.	$1.50Q	June 15, 34	.....	....	....	....	....
4	1¼	6	3¾	400,000	25	Penn Mex. Fuel Co.	75c	Dec. 22, 33	.....	....	....	....	....
6	2¾	5½	3¾	100,000	10	Southern Pipe Line Co.	15c	Sept. 1, 34	.....	....	....	....	....
22½	11	26½	17½	1,200,000	25	South Penn Oil Co.	30c	June 30, 34	1,900	22½	21	21	— 1⅛
43	24½	47	41	35,000	50	South West Pa. Pipe Lines	$1Q	July 2, 34	.....	....	....	....	....
19¼	8¾	17⅜	14⅜	2,606,983	10	S. O. Kentucky	25cQ	Sept. 15, 34	2,700	15½	15¼	15¼	— ⅜
20½	11	16⅞	9	190,822	25	S. O. Nebraska	25cQ	June 20, 34	800	9⅜	9⅛	9¼	— ¼
41	15½	28½	15	752,465	25	S. O. Ohio	....	April 16, 34	350	16	15	15	— 1
88	60	95	77½	120,000	100	do 5% pfd.	$1.25Q	July 16, 34	.....	....	....	....	....
3	1	4½	2¾	34,158	25	Swan Finch Oil Corp.	....	Dec. 1, 30	.....	....	....	....	....

*New high †New low. ††Indiana Pipe Line 10c; International Pet. Co. 44c, June 1, '34.
x Ex dividend

Builds New Diesel Tanker

NEW YORK—Tankschiff-Reederei Julius Schindler, Hamburg, controlled by Oelwerke Julius Schindler, Hamburg, has placed an order for construction of a 2000-ton deadweight twin-screw motor tanksteamer. This vessel, owing to its low draft and small size, will be particularly suitable for river navigation. It is expected to be completed early in 1935.

The Schindler concern also owns the tankers "Julius Schindler," "Irma Schindler," "Gustav Schindler," "Fritz Schindler" and "Olifer."

The Julius Schindler refinery specializes in lubricating oils, transformer oils and Russian white oils, medicinal and technical, which are exported to many countries. They are represented in the United States by S. Schwabacher & Co., Inc., New York.

Oil and Royalty Stocks on New York Curb

1933 High	1933 Low	1934 High	1934 Low	Par Value	Company	Transactions Week Ended Sept. 15 Sales Shares	High	Low	Last	Week's Change
2 3/8	3/16	1 1/4	1/2	N.P.	American Maracaibo	2,800	5/8	1/2	5/16	— 1/16
5 1/2	1 1/2	2 7/8	1 1/8	N.P.	Arkansas Nat. Gas	300	1 1/4	1 1/8	1 1/4	0
4	1	2 3/8	1	N.P.	do A	1,000	1 1/8	1	1	— 1/8
4 7/8	2	3 7/8	1 3/4	$10	do pfd	100	2	2	2	0
15 1/4	6 1/8	15 3/8	12 3/4	N.P.	British Amer. Oil coup.	300	14 3/8	14 1/4	14 3/8	+ 3/8
7 3/4	1/4	5 1/2	2 3/4	$1/4	Carib Syndicate	3,300	3 1/4	2 7/8	2 7/8	— 3/8
6 1/4	1 7/8	4 1/4	1 5/8	N.P.	Cities Service	15,300	1 7/8	1 3/4	1 7/8	0
30	10 1/2	26 7/8	11 1/4	$100	do pfd	800	16 1/4	15 1/2	15 1/2	— 1
3 3/4	1	2 1/2	1 1/8	10	do pfd. B	.....	....	....	....	....
25	5	23 1/2	9	100	do pfd. BB	10	15	15	15	— 1 1/2
4	1/4	3 1/4	1	N.P.	Colon Oil Corp	1,900	1 1/4	1	†1	— 1/4
2 1/2	3/8	1 3/4	5/8	N.P.	Columbia Oil & Gas vtc	1,300	5/8	5/8	5/8	— 1/8
2 7/8	1	2	1 1/8	$1	Consolidated Royalty	.....	....	....	....	....
3 7/8	1 3/8	3 7/8	1 1/8	N.P.	Cosden Oil	500	1 1/4	1 1/8	1 1/8	— 1/8
6 1/2	6	9	5	$100	do pfd	.....	....	....	....	....
1 1/2	3/4	1 1/4	3/4	N.P.	Crown Central Pet	1,600	7/8	7/8	7/8	0
8	2 1/8	7 1/2	4 5/8	N.P.	Darby Petroleum	300	5 1/4	5	5	— 3/8
2 3/4	7/8	2 1/4	1	N.P.	Derby Oil & Refg	.....	....	....	....	....
27	25	....	....	N.P.	do pfd	.....	....	....	....	....
62	24	76 3/4	50	$25	Gulf Oil Corp	6,000	55 1/4	51	51	— 3 1/4
7	1 1/4	4 1/8	1 1/4	N.P.	Indian Ter. Illg. Oil A	.....	....	....	....	....
6 1/2	1 1/4	4 1/8	1 3/4	N.P.	do B	.....	....	....	....	....
2	5/8	3	1 1/8	N.P.	Kirby Petroleum	1,700	†2 3/4	2	2	+ 1/8
1 1/2	1/8	7/8	1/16	$25	Leonard Oil Dev	300	3/8	3/8	3/8	0
9 1/2	1 1/4	5 7/8	3 1/2	N.P.	Lion Oil Refg	100	3 7/8	3 7/8	3 7/8	— 1/8
12 7/8	4 3/4	8 3/8	4 1/4	N.P.	Lone Star Gas	400	4 7/8	4 3/4	4 7/8	— 1/8
7	4	8 3/4	6 3/4	N.P.	Margay Oil Co	.....	....	....	....	....
5	1 1/2	2 1/4	1	N.P.	Mexico-Ohio Oil	.....	....	....	....	....
6 1/2	1	5	2 7/8	N.P.	Michigan Gas & Oil	100	2 7/8	2 7/8	2 7/8	— 1/8
4	1 1/4	2 7/8	1 1/8	N.P.	Mid. States Pet. A vtc	1,100	1 5/8	1 3/8	1 3/8	— 1/4
1 3/8	1/4	1 1/8	1/2	N.P.	do B vtc	600	1/2	1/2	1/2	0
1 1/4	1/4	3/4	1/16	$1	Mountain & Gulf	200	3/8	3/8	3/8	— 1/8
6 1/2	2 1/2	5 1/2	4	10	Mountain Producers	31,000	4 5/8	4 1/4	4 1/4	— 1/4
20	10	18 1/8	13 1/2	N.P.	National Fuel Gas	600	14 3/4	14 1/2	14 1/2	— 1/4
2 1/8	1/2	2 1/2	1 3/4	$5	New Bradford Oil	1,900	2 1/8	2	2 1/8	0
5	1/2	3 5/8	1 3/4	N.P.	North Central Texas	.....	....	....	....	....
1/2	1/16	3/8	1/16	N.P.	North European	.....	....	....	....	....
8 3/8	3	10 5/8	8 1/4	N.P.	Oil Stocks Ltd. A	.....	....	....	....	....
3 3/4	1/16	2 5/8	7/8	N.P.	Pantepec of Venezuela	3,200	1 3/4	1 1/2	1 1/2	— 1/8
1 1/4	1/4	5/8	1/8	N.P.	Producers Royalty	900	1/4	1/8	1/8	— 1/8
57	21	63	36 1/2	$100	Pure Oil 6% pfd	90	40	38 5/8	38 5/8	— 1 3/8
2 1/2	1/2	1 1/2	3/4	N.P.	Red Bank Oil	.....	....	....	....	....
1 7/8	1/4	1	1/4	N.P.	Reiter-Foster Oil	.....	....	....	....	....
2 1/4	1/4	4	5/8	$25	Richfield Oil pfd	.....	....	....	....	....
....	....	1 1/4	3/4		Root Refining	.....	....	....	....	....
8	3	8 1/4	6	10	do conv. pr. pfd	600	6 1/2	6 3/8	6 1/2	+ 1/8
....	....	....	....	$10	Royalty Corp. pfd	.....	....	....	....	....
4 1/8	5/8	3 3/4	7/8	N.P.	Ryan Consolidated	100	1	1	1	+ 1/8
1	3/8	1	1/4	$10	Salt Creek Consolidated	500	3/4	3/4	3/4	0
9 1/4	3 1/2	7 7/8	5 1/2	10	Salt Creek Prod	2,900	6	5 5/8	5 3/4	— 1/4
6 3/8	3 1/4	6	4 7/8	N.P.	Southland Royalty	1,400	5	5	5	0
1 1/2	1/4	2	1/2	$5	Sunray Oil	2,500	1 3/8	1 1/4	1 1/4	— 1/8
13	6 1/4	11	4 3/8	N.P.	Texon Oil & Land	500	5 5/8	5 5/8	5 5/8	— 1/8
1 3/8	1/8	1 1/4	1/2	$5	Venezuela Petroleum	1,100	5/8	9/16	5/8	+ 1/16
3 3/4	1 1/2	5 1/4	3	1	Woodley Petroleum	400	3 1/4	3	†3	— 3/8

*New high. †New low.

New York Bonds

Week Ended Sept. 15

	High	Low	Last	Change
Atlantic Refg. deb. 5s	107	107	106	— 7/8
Calif. Pet. 5s	102 3/4	102 1/2	102 3/4	+ 3/4
Calif. Pet. 5 1/2s	102 3/4	102 1/2	102 1/2	— 1/2
General Pet. 5s '40	105 1/2	105	105	0
Humble Oil & Refg. 5s	102 1/4	102	102	— 1/8
Pan Amer. Pet. of Calif. 6s '40	37 1/4	37 1/4	37 1/4	— 7/8
Phillips Pet. 5 1/4s '39	101 3/4	100 3/4	101 1/2	— 1/8
Pure Oil 5 1/2s '37	100 3/8	100 1/8	100 1/8	— 1/4
Pure Oil 5 1/2s '40	99 1/4	98 3/4	98 3/4	— 1/4
Richfield Oil of Calif. 6s '44	29 1/4	26	26	—2 1/2
Richfield Oil of Calif. 6s ctfs	29 1/2	26 1/8	26 1/8	—2 1/8
Shell Union Oil 5s '47	100	99 3/4	100	+ 1/4
Shell Union Oil 5s w.w.	100 1/2	99 3/4	100 1/2	+ 3/4
Shell Pipe Line 5s '52	101 1/4	100 1/4	100 3/4	+ 1/4
Sinclair Con. Oil 7s A	103 3/4	103 1/2	103 1/2	— 1/4
Sinclair Con. Oil 6 1/2s B	104 1/4	103 1/2	104	+ 1/4
Skelly Oil 5 1/2s '39	95 1/2	95	95	+1
S. O. N. J. 5s '46	106 1/2	105 3/4	105 3/4	— 1/2
S. O. N. Y. 4 1/2s	104	103 3/4	104	0
Union Oil of Calif. 5s w.w.	102 1/2	100 3/4	101 1/8	—1 3/8
Union Oil of Calif. 6s A	113 7/8	111 1/2	111 5/8	—2 3/8
Warner-Quinlan 6s '39	32	32	32	0

New York Curb Bonds

Week Ending Sept. 15

	High	Low	Last	Change
Cities Serv. 5s '50	42 3/4	40 1/8	40 3/4	—1 7/8
Cities Serv. 5s '66	42	40	40	—2
Cities Serv. G. 5 1/2s '42	63	59 1/4	59 1/4	—3 3/8
Cont. Oil 5 1/4s '37	102 1/8	101 3/8	101 1/2	— 1/2
Empire O & R 5 1/2s '42	61 3/8	59 3/8	59 3/8	—1 3/4
Gulf Oil 5s '37	105	104	104 3/4	0
Gulf Oil 5s '47	105 1/8	104 3/4	104 3/4	— 1/4
Sun Pipe 5s '40	101 3/4	101 3/4	101 3/4	0

Pittsburgh Stock Exchange

Transactions Week Ended Sept. 14, 1934

	Sales	High	Low	Last	Change Over Week
Col. Gas & Elec	810	9	7 7/8	7 7/8	—1
†Continental Oil	30	16 3/4	16 3/4	16 3/4	—1 1/8
Devonian Oil	95	10 1/2	10 1/2	10 1/2	0
Lone Star Gas	834	5	4 7/8	4 7/8	— 1/8
†xd do 6 p.c. conv. pfd	74	68 1/2	68	68 1/2	+1 1/2
Shamrock Oil & Gas	100	1 5/8	1 5/8	1 5/8	+ 1/8
†Socony-Vacuum	232	14	13 1/8	13 1/8	—1
†Stand. Oil of N. J.	72	43 1/8	42	42	—2
West. Pub. Serv.	245	4 1/4	4	4	0

†Unlisted. xd Ex dividend.

Continental Can to Split Stock

A proposed increase in the authorized stock of the Continental Can Co., Inc., from two million to three million share is to be voted upon in a special meeting of the stockholders authorized by the board of directors. Subject to such approval, the board declared a stock dividend of 50 per cent upon the outstanding stock. It is the expectation of the board that after the issuance of the stock dividend, the initial quarterly cash dividend will be 60 cents per share.

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Analysis of Labor Agreement Of Shell Petroleum Corp.

WASHINGTON

SUCCESS of the agreement between Shell Petroleum Corp. and employes of its East Chicago refinery is being watched with much interest.

Stamped as a "satisfactory working arrangement" by Harvey C. Fremming, president of the International Association of Oil Field, Gas Well and Refinery Workers, it seems that Shell officials are also satisfied with the plan which ended a short strike at this plant late in July.

It is interesting to analyze the features of the agreement, which apparently form the basis for this mutual satisfaction; to see how it fulfills the objectives sought in a collective bargaining agreement between employer and employe.

Presumably, the employes are anxious to secure the full benefits of collective bargaining through chosen representatives, not only to improve wage levels, working schedules and general working conditions from time to time, but also to minimize injustices by currently discussing and effecting adjustments of individual grievances.

The employer, in turn, is desirous of keeping his current problems of employe relationships "within the family circle" as far as possible, and to avoid any undue restraint being placed upon his reasonable business judgment in the fair handling of individual employes.

When an outside union is involved, the union (as an organization acting through its officers) is anxious to secure recognition from the employer as an accredited "agency" to whom the employes can turn for professional assistance in collective bargaining and other mutual aid and protection.

The East Chicago agreement comprises a basic "memorandum of terms" establishing a comprehensive plan of employer - employe relationship governing all employes in the plant. Accompanying it is a letter from the company to the international union, with acknowledgement by the latter, which sets forth the recognized function of the international and local unions.

The memorandum provides for an election, at which *all* hourly-paid employes and monthly-paid stillmen and water-tenders within the plant may vote, of a "workmen's committee" of seven employes. Such an election was held recently in a tent erected outside the plant gate. A federal conciliation commissioner supervised it.

WITHOUT outside intervention of any kind, this representative committee of employes will negotiate all employe matters with the company until such time, in each case, as an amicable arrangement or settlement cannot be so effected.

Committee meetings will be held twice a month, once with the plant superintendent on company time.

Complaints and questions of wages, working conditions and the like, are to be taken up first by the affected employe with the foreman in charge, and—failing of a satisfactory adustment—are to be presented to the workmen's committee.

The committee will make a preliminary investigation to determine whether, in its opinion, the complaint has merit.

Should the committee decide that the complaint has no merit, its decision is final. If the committee decides the complaint has merit, the complainant submits it in writing simultaneously to the committee and to the foreman. Within one week, the company must advise the committee of its position regarding the complaint.

Should the committee consider the company's position unsound, the complaint will be discussed by the committee with the plant superintendent at the next regular meeting, at which time both parties have an opportunity to move to a fair and amicable settlement.

Throughout this procedure, the matter remains entirely between the company and the employes' committee.

IF A mutually satisfactory agreement cannot be reached at the meeting, or presumably at subsequent meetings, an extension of time being agreed upon, the memorandum provides that the controversy normally will be submitted either (if involving application of agreed wage schedules and working conditions) to a referee for binding *arbitration* or (if involving future changes in wage schedules or working conditions in the memorandum) to the Petroleum Labor Policy Board for *conciliation*.

As set for in the company's letter to the international organization, if a controversy affecting members of the oil workers' local union fails of amicable settlement between the company and the committee, then—and before same is submitted to arbitration or conciliation—the plant superintendent will discuss it further in the presence of the workmen's committee with officers of either the local or the international union who may be present during such discussion at any meeting of the committee called as provided for in the memorandum.

All unsettled disputes arising out of application of agreed wage schedules and working conditions are to be submitted for binding *arbitration* to a referee, who is to be a U. S. Commissioner of Conciliation designated by Director Hugh L. Kerwin.

It is also provided, however, that both parties may optionally agree on a more acceptable settlement after findings have been handed down. Policy disputes may be submitted for conciliation to the labor policy board or any other conciliation agency mutually agreed upon, perhaps

even to a referee acting without arbitration power.

The memorandum provides that no strikes or lockouts are to occur during the one-year period of its operation

This whole arrangement seems to have some aspects of a "company" plan in that the employer deals with a self-organized inside bargaining agency, the workmen's committee, without outside interference as long as settlements can be effected, and that the general workmen's committee is assured a part in—or at least is present at—all discussions of employes' problems.

It also has the aspect of a "union" plan. An outside bargaining agency, as represented by the union officers, can take up controversial matters for union members under circumstances outlined above. Should the union's presentation of the case add nothing to that of the committee's, the subsequent route to arbitration or conciliation is the same.

Conditions established to regulate hiring, promotion, demotion, transfer and discharge leave last decision to the company's judgment, but it is required at all times to evidence fairness and good faith.

For instance, the memorandum contains the "merit clause," and the company may deviate from application of agreed seniority rules in any particular case, but a subsequent explanation must be given the workmen's committee.

Employes may be laid off or discharged for inefficiency and for disciplinary purposes, but reasonable grounds must be established. No restrictions are placed on hiring new employes, and there are no preferences or discrimination clauses as regards rehiring of discharged employes. It is understood that a demand for the check-off system was refused by the company during negotiations.

The basic memorandum is similar to the memorandum of terms which has been effective in Shell's Pacific Coast field, refinery and pipeline operations since 1920. This is a tri-partite agreement between the employes, the company and the "federal oil board," comprising two U. S. Commissioners of Conciliation. The latter serve as "adjusters," with functions similar to those of the referee in the East Chicago arrangement, and as conciliators at the annual conferences when changes in wage schedules and working conditions are discussed.

High Grade Synthetic Lubricants Studied

A study of the viscosity of esters of saturated aliphatic acids brings out the conclusion that, as far as viscosity is concerned, it makes little difference, in making synthetic ester lubricants, which group—the acetates, propionates, butyrates, valerates, or caproates, is used.

The factor which must be considered in the selection is the molecular weight. The results of the investigation show a straight line relation between absolute viscosity and number of carbon atoms when plotted on a semi-logarithmic chart, the viscosity taking the logarithmic scale.

The subject is being studied by Augustus H. Gill and Forest P. Dexter, Jr., Massachusetts Institute of Technology, who have reported the findings to date in the August issue of *Industrial and Engineering Chemistry.* Further study will be made in an effort to determine the practicability of manufacture of a synthetic oil to substitute for porpoise jaw oil which has been used for 100 years for oiling timepieces. Its lack of change in air, low viscosity, and high lubricating power especially adapt it for this purpose.

Oil Dividends

Declared and Waiting Payment

Company	Amount	Record	Payable
British American Oil q.	20c	Sept. 15	Oct. 1
Chesebrough Mfg. Co. com q	$1.00	Sept. 4	Sept. 29
do extra	50c	Sept. 4	Sept. 29
Continental Oil q.	25c	Oct. 1	Oct. 31
Humble Oil & Refining q.	25c	Sept. 1	Oct. 1
Nat'l. Refining Co. pfd.	$2.00	Sept. 15	Oct. 1
New York Transit s.a.	15c	Sept. 21	Oct. 15
Plymouth Oil Co. q.	25c	Sept. 8	Sept. 29
South Penn Oil Co. q.	30c	Sept. 15	Sept. 29
S. W. Penna. Pipe Line q.	$1.00	Sept. 15	Oct. 1
Standard of Kansas q.	50c	Oct. 1	Oct. 31
Stand. of Ohio, pfd. q.	$1.25	Sept. 29	Oct. 15
Texas Corp. q.	25c	Sept. 7	Oct. 1
Texon Oil & Land Co. q.	15c	Sept. 10	Sept. 29
Texon Oil & Land Co. ex.	15c	Sept. 10	Sept. 29
Woodley Petro.	10c	Sept. 15	Sept 30

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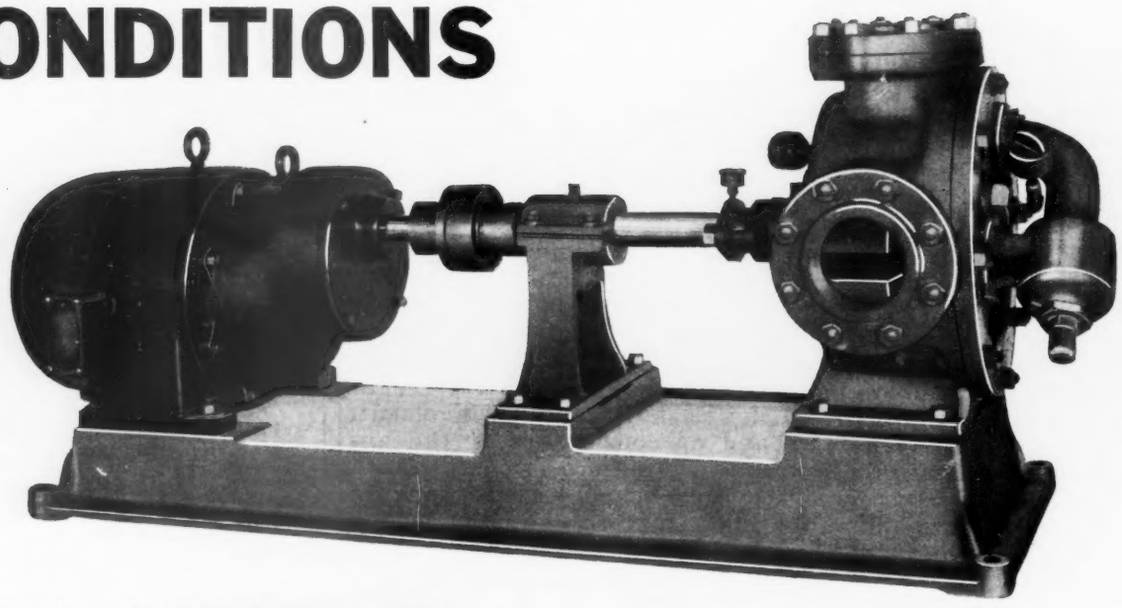

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